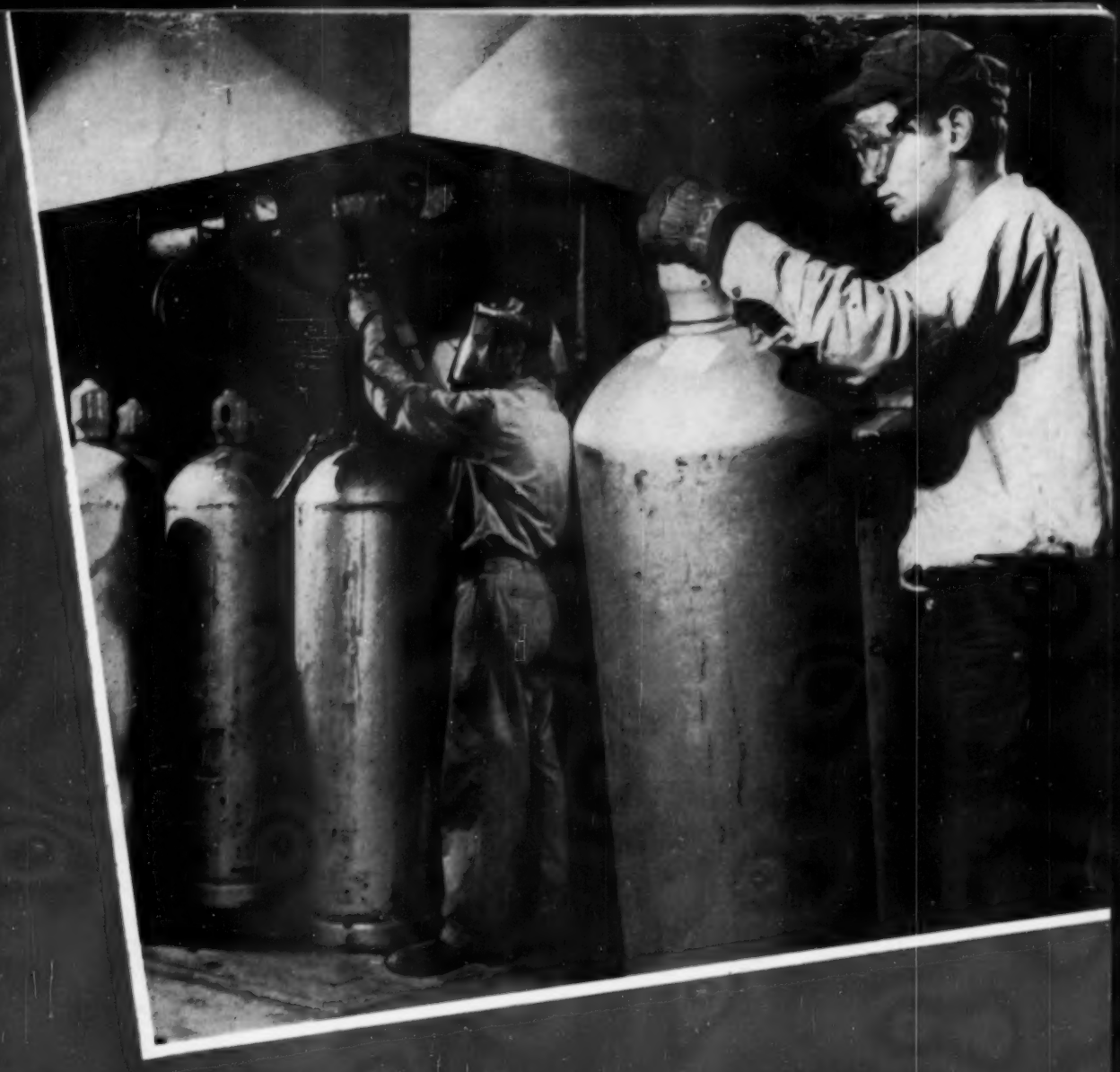


Safety Maintenance and Production

EST. 1901 • AMERICA'S PIONEER MAGAZINE IN ITS FIELD • OCTOBER, 1956 • 50¢

high-pressure and high-temperature molding for extra

LAMINATED PROTECTION *outside*

Laminated construction means M-S-A Skullgard protection is built-in, layer by layer. More than 6 different materials, blended to provide maximum strength without excessive weight, are used. This method of exactly positioning the reinforcing pieces for maximum safeguard led to the development of the M-S-A "Danger Zone" protection. But that's only part of the protection story. To make sure these material layers are *permanently welded*, more than 2000 pounds of pressure, and carefully controlled heat, are applied. The result is a one-piece, smooth, laminated shell that gives workers an extra margin of safety.

...quality design and material selection for added

SAFETY—COMFORT *inside*

M-S-A Skullgard suspensions are designed to provide maximum protection, better distribution of impact. Crown straps are of high quality material selected for strength, comfort and durability. The entire suspension assemblies are tailored for top comfort. Available in Snap-in Adjustable type, Standard Sized Laced type, Adjustable Laced type.

with M-S-A® SKULLGARDS

Small wonder M-S-A Skullgards are turning head accidents into incidents in a variety of industries. Tough, rugged, *laminated* shell construction dissipates the force of impact—engineered suspensions cushion the blow, permit non-slipping adjustment that means accurate fit. And comfort qualities encourage full-time hat use. Our bulletin gives complete details. Write for your copy.

MSA
SAFETY EQUIPMENT HEADQUARTERS

Call the M-S-A man on your every safety problem . . . his job is to help you

MINE SAFETY APPLIANCES CO.
201 NORTH BRADDOCK AVENUE, PITTSBURGH 8, PA.
At Your Service: 76 Branch Offices in the United States

MINE SAFETY APPLIANCES CO. OF CANADA, LTD.
Toronto, Montreal, Calgary, Edmonton, Winnipeg, Vancouver, Sydney, N.S.
Representatives in Principal Cities in Mexico, Central and South America
Cable Address: "MINSAF" Pittsburgh

(For details, use Key # W-1 on card on page 47)

WISE TO CHOOSE SAFE TO USE

THOSE IN THE KNOW
. . . PREFER
Install K-LENS-M Lens Cleaning and Anti-Fogging Stations for clean, clear vision . . . for all types of safety eyewear, glass or plastic.
More Efficient—Lower Cost
Send company letterhead for FREE sample and complete information.
K-LENS-M
REG. U.S. PAT. OFF.
The Acknowledged Leader in the Lens Cleaning Field
The WILKINS Co., Inc.
Cortland 2, N. Y.

(For details, use Key # W-2 on card on page 47)

Published by Alfred M. Best Company, Inc., Publication Office, Columbia Turnpike, Box 232, Rensselaer, N. Y. Editorial and General Offices, Best Building, 75 Fulton St., New York 38, N. Y. Entered as Second Class Matter at Post Office at Rensselaer, N. Y. Under Act of March 3, 1879. Subscription rates, $4.00 Per Year in the United States; $5.00 in Canada; Foreign, $5.00. Single Copies, 50 cents. Publication Date 1st.

Safety Slogans!

AND REMINDERS

UNLAWFUL TO OPERATE THIS EQUIPMENT WITHIN 6 FEET OF HIGH VOLTAGE LINES
546—N

CAUTION WET FLOORS BE CAREFUL
1016—49

STONEHOUSE SIGNS
For Accident Prevention

THINK ACCIDENTS ARE AVOIDABLE FORGET THE ALIBI
1431

DANGER KEEP FROM UNDER CONVEYOR
176—9

NOTICE PERSONAL PROPERTY LEFT ON THESE PREMISES AT OWNERS RISK. WE ARE NOT RESPONSIBLE IN CASE OF FIRE OR THEFT
1300—12

SAFETY FIRST FOR YOUR OWN SAFETY TALK SAFETY
429—G

Most people sometimes forget — and it's a dangerous oversight to forget Safety. "I forgot" is an all too common alibi for an accident.

To help workers *remember*, post Stonehouse Safety Slogans and Reminders signs. Just the few words on any of them help to promote safety.

The tendency to forget should not be overlooked—It's serious. Teach your workers to cultivate the practice of safety by reminding them to *remember* its blessings.

Our complete Catalog—64 pages, in full color—free on request.

Stonehouse
SIGNS, inc. • Stonehouse Bldg., 9th at Larimer • Denver 4, Colo.

MANUFACTURERS

"Signs Since 1863"

ACCIDENT PREVENTION • *steel* SIGNS IN STANDARD COLORS AND DESIGNS

(For details, use Key # W-11 on card on page 47)

Editor-in-Chief
ALFRED M. BEST

Editor
HARRY De G. ARMAND

Associate Editor
RALPH P. EAMES

Editorial Assistant
PHILIP V. CARDUCCI

Make-up Editor
ROLLIN P. SILVER

Managing Editor
CHESTER M. KELLOGG

BUSINESS DEPARTMENT

Executive Vice President
ARTHUR SNYDER

General Sales Manager
FRANK R. WALDRON

Sales Manager
JAMES E. BEHNER

Circulation Manager
KARL FOURDRINIER

Production Manager
A. M. CROWLEY

Publication Office:
Columbia Turnpike, Rensselaer, N. Y.
Editorial and Advertising Offices:
BEST Building, 75 Fulton St., New York 38, N. Y.

NATIONWIDE BRANCHES

WESTERN
FRANK J. MATRE, Sales Mgr.
W. LAWRENCE HOWE, Spec. Repr.
JAMES G. BRECUNIER, Spec. Repr.
10 South La Salle Street
CHICAGO 3, ILL.

EAST CENTRAL
PAYSON H. RYAN, Vice-President
FELIX T. McCARTHY, JR., Spec. Repr.
Ingalls Building, 6 E. 4th St.
CINCINNATI 2, OHIO

NEW ENGLAND
WALTER A. SPANGLER, Manager
BRUCE McFARLANE, Spec. Repr.
13 Stanhope Street
BOSTON 16, MASS.

EASTERN
DAVID R. BEASLEY, Spec. Repr.
ROLAND H. BURCHSTEAD, Spec. Repr.
ARTHUR A. EBERLE, Spec. Repr.
ELLIOTT SEWARD, Spec. Repr.
75 Fulton St., New York 38, N. Y.

MIDDLE ATLANTIC
HOWARD J. ADER, Manager
1208 Nelson Street
RICHMOND 26, VA.

SOUTH CENTRAL
GENE HANSELMANN, Manager
151 Lynda Drive
CHATTANOOGA 5, TENN.

SOUTHWESTERN
ROBERT S. BEGIEN, Manager
Oil & Gas Building, St. Paul Street
DALLAS, TEXAS

PACIFIC COAST
HAROLD F. KANE, Manager
1150 Wilshire Blvd.
LOS ANGELES 17, CAL.

Copyright 1956
Alfred M. Best Company, Inc.
75 Fulton St., New York 38, N. Y.

Trademark Registered—U. S. Patent Office

Annual Subscription $4 (two years $6)
Canadian & foreign $5 (two years $8)
Single issues 50c. Also quantity rates

Safety Maintenance and Production

formerly "SAFETY ENGINEERING"

Volume 112, Number 4 **October, 1956**

EDITORIALS

Every Nine Seconds 6
Is Big Business More "Human"? 6

ACCIDENT PREVENTION

Recipe for an Accident 15
by ROBERT H. EMERICK
Safety Lenses for Radiant Energy 18
Miners' Cap Lamps Do Bridge Duty 25
Guarding the Herd to Guard Machine 28
by JOSEPH P. MARCHETTI
Silver Dollars Buy Safety 36
by G. A. NICOLI
Free Safety Bulletins 47
New Safety Products 87

MAINTENANCE

Recipe for an Accident 15
by ROBERT H. EMERICK
Larger Lamps Save on Power Bills 17
by PAUL C. ZIEMKE
The Why, When, and Cost of Maintenance Painting 33
by CARL J. EBERT
Free Maintenance Bulletins 47
New Maintenance Products 87

INDUSTRIAL HYGIENE

First Aid Procedures for Industrial Nurses 55
by DR. J. F. McCAHAN (first aid series)
Keeping Up With Recent Developments in Dust & Fume Control 60
(dust and fume series)
Dust Explosions 75
by HYLTON R. BROWN
Free Industrial Hygiene Bulletins 47
New Industrial Hygiene Products 87

FIRE PROTECTION

The Fire Front 71
Which Extinguisher? 72
(fire protection series)
Dust Explosions 75
by HYLTON R. BROWN
Free Fire Protection Bulletins 47
New Fire Protection Products 87

SPECIAL DEPARTMENTS

The Future Shows 10
Production Aids Check List 12
"Safety Maintenance" Salutes 26
Safety on Film 39
Achievements & Awards 40
Free Bulletins & Catalogs 47
Reader's Inquiry Card 47
What's Your Problem? 48
What's the Law? 49
Industrial Hygiene 53
The Safety Shelf 67
Inside the Trade 83
What's New? 87
Index to Advertisers 92

Cover picture by courtesy of Shell Oil Co.

AMERICA'S PIONEER MAGAZINE IN ITS FIELD

SAFETY MAINTENANCE & PRODUCTION is indexed regularly by Engineering Index, Inc., New York

ENTIRE CONTENTS COPYRIGHT, 1956, BY ALFRED M. BEST COMPANY, INC. ALL RIGHTS RESERVED

it's SAFE to say

● EVERY NINE SECONDS

WHEN any single state in the nation suffers an industrial accident every nine seconds with a yearly financial loss of three-quarters of a billion dollars, something more than merely "viewing with alarm" becomes necessary.

Spurred on by a recent annual average of over 800,000 on-the-job accidents in his State, New York's Governor Averell Harriman called a two-day Conference on Worker Safety in New York's capital city last month. Leaders in industrial safety from the ranks of management, labor, education, insurance and government met in Albany to act as a coordinated unit to review and discuss an expanded State Labor Department program to cope with accidents.

Granted that New York State is highly industrialized and densely populated compared with other states, the Governor is justified in taking steps to bring down a total accident rate representing almost 10% of that of the entire country.

Several months ago, Governor Harriman appointed a 52-member Industrial Safety Advisory Committee under the leadership of Brigadier General David Sarnoff, chairman of the board of Radio Corporation of America, aided by recognized authorities throughout the State.

New York's Chief Executive wisely referred to the wave of sadness which engulfed the entire nation when a series of spectacular airplane accidents snuffed out the lives of many passengers earlier in the summer. However, on-the-job accidents never create headlines nor do they bring out the television cameras such as those covering the ill-fated "Andrea Doria" and "Stockholm" steamship collision or plane crashes on a mountain top.

The fact remains that an industrial worker suffering a fatal injury is just as dead as any other victim of accidental death; his loss is just as tragic to his family and community, and the financial loss is a burden just as heavy.

Leaders of the State of New York merit congratulations for mapping out a vigorous plan of attack on losses which make up in severity for what they lack in headline drama.

● IS BIG BUSINESS MORE "HUMAN"?

IT HAS BEEN said that, in the aggregate, the small plant is the chief offender against safe practices. This does not necessarily mean that the small business operator is less "human" or more callous than his big brother. He needs more education and more guidance from safety leaders in the fields of insurance, state governments and the example of the larger plants in his community.

Elsewhere in this issue is an article by Senior Factory Inspector Joseph P. Marchetti of the New York State Department of Labor, who discusses the "hard to guard" machine. Mr. Marchetti points up the obvious fact that too often the small plants are lax in machine guarding as well as in other spheres of accident prevention. "Management in the larger establishments, in addition to the humanitarian considerations, have found through production cost studies and accident data that hazardous conditions reflect directly in higher costs."

It is quite true that the small plant operator must be a jack of all trades—buyer, seller, production man, personnel manager and financial executive and therefore gives little time to accident prevention effort.

It is in the area of safety that the small plant can utilize the facilities of its state labor department and his insurance company who can offer conclusive proof that an accident is a prohibitively costly luxury. The smaller the plant, the less they can afford it. H.A.

Everyone Likes Magic

T.M. REG. U.S. PAT. OFF.

Cleaning Stations

We Like Magic Lens Tissue Because:

Magic Lens Tissue, 6 refills per carton, $8.40
Magic Lens Tissue Dispenser each, $2.50

"SIZE – It's twice as big as others. STRENGTH – It has twice the tearing strength. QUALITY – Polishes lens easier, brighter, faster, more lasting."

"EASY – to install dispenser. No moving parts, no drilling, no screws just sticks to the wall. WINDOW – indicates refill time."

"FASTEST – lens cleaning and polishing. IT LASTS – Lens stay sparkling and protected much longer."

We Like Magic Heavy-Duty Stations Because:

Magic Heavy Duty Dispenser each, $5.95
Cleaning & Anti-Fogging Fluid, 12-12 oz. cans per carton, $12.50
Magic Heavy Duty Paper, 18 giant refills (760 sheets ea.) per carton, $11.60
All prices F.O.B. shipping point

"BEST – Where Heavy-Duty cleaning is needed, Magic gives more safety for less money BIG – 760 sheet packet for less refilling. ANTI-FOGGING – Included at no extra cost."

"NO SERVICE NEEDED No pumps to replace or bottles to refill. Toss the empty can away. ONE KEY – keeps dispenser pilfer proof."

"CLEANING & ANTI-FOGGING – in one finger-tip application. Valve delivers fluid where you want it – great time saver."

Exchange all your other Stations for Magic FREE

Wire or write us or your Safety Jobber today!

The Silicone Paper Company of America, Inc.
75 E. 45th St., New York 17, N. Y.
Serving every Major Industry in America

(For details, use Key # W-6 on card on page 47)

Now Another
Balanced Vision in

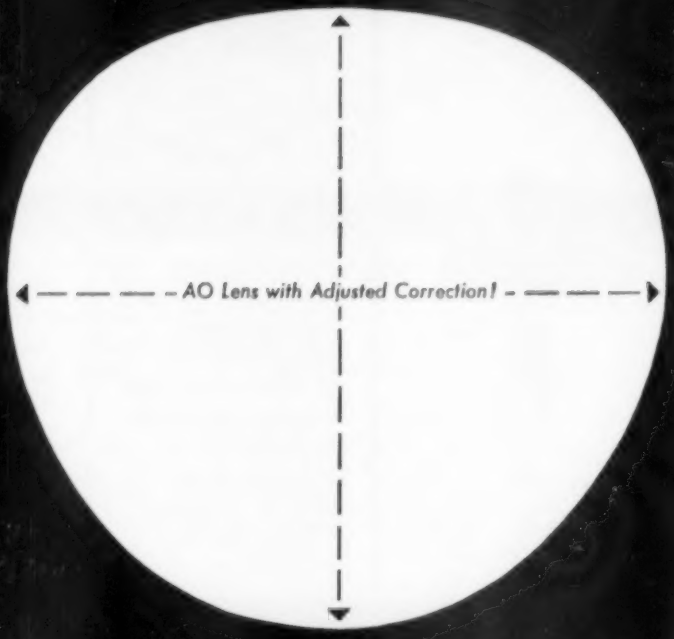
Now . . . American Optical is proud to announce an outstanding development in vision and safety . . . CLEAR AND CALOBAR CORRECTIVE CURVE SUPER ARMORPLATE TILLYER LENSES.

• • •

AO ULTRASCOPIC Safety Glasses with BALANCED VISION are the Ultimate in Eye Protection

There are over 420 combinations in the American Optical line of metal (F5100 series) and plastic (F9500 series) safety glasses. You can give every worker the type of eye protection he needs. You can fit any worker.

SEE THESE SAFETY GLASSES WITH BALANCED VISION AT THE AO BOOTH, NATIONAL SAFETY SHOW.



The Big Benefit is BALANCED VISION

With "compensated" or balanced vision throughout the lens, the worker obtains optimum seeing qualities from his glasses whether he looks up, down, laterally or straight ahead. Naturally, this "balanced vision" will increase visual efficiency and safety on the job . . . reduce production and eye accident costs. This advance is available in all regular prescription ranges.

DR. EDGAR D. TILLYER, internationally recognized Dean of Ophthalmic Lens Design.

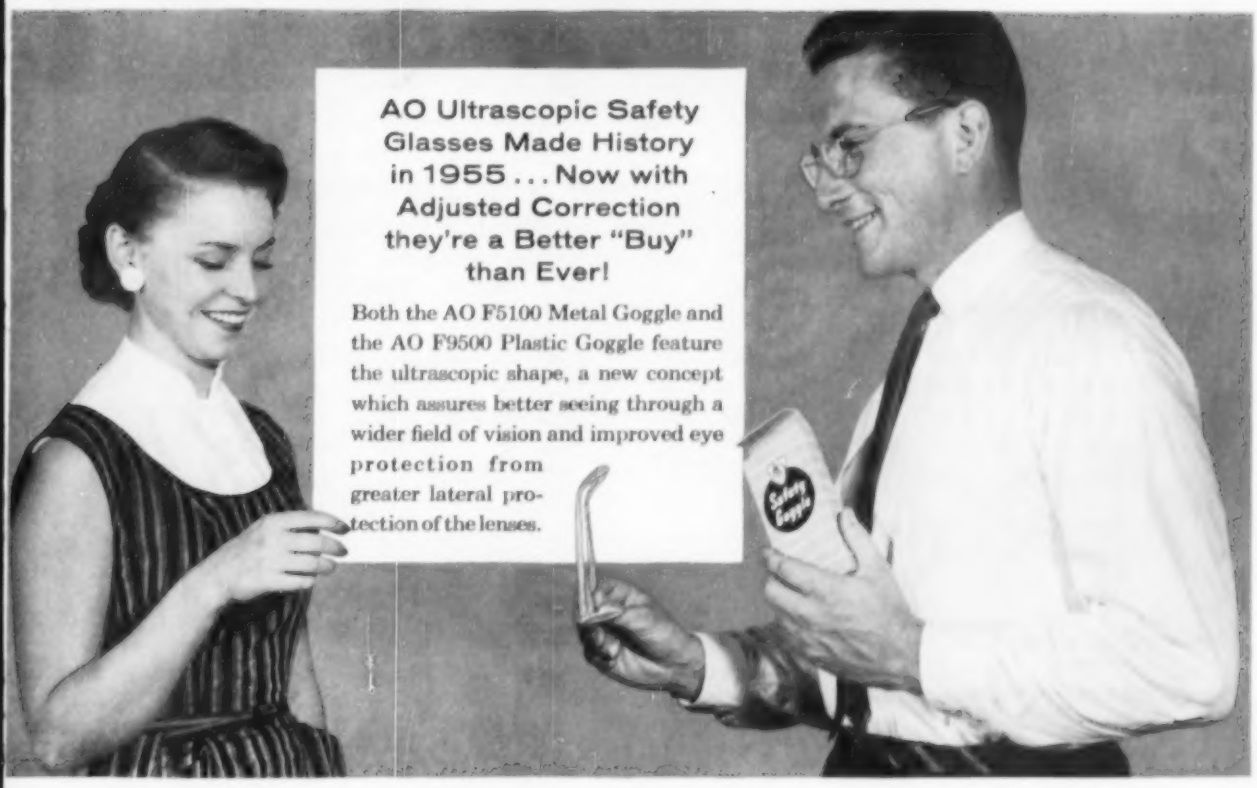
Facts about the AO TILLYER Principle of ADJUSTED CORRECTION

Lenses which interpret the services of the ophthalmic profession should be constant in R power from center to edge. Such constant R power depends upon achieving a balance between marginal sphere and cylinder characteristics of the lens. For over thirty years the Tillyer Principle has been the accepted standard in achieving this balance. Now, new computations make it possible to apply the well-known Tillyer Principle to safety-thickness S.A.P. lenses.

Electronic computing gives a new scientific dimension to lens perfection. This advance for the first time is adapted to safety lenses and is now available with American Optical eye protection equipment.

AO—"First"!

Safety Rx Glasses


AO Ultrascopic Safety Glasses Made History in 1955 . . . Now with Adjusted Correction they're a Better "Buy" than Ever!
Both the AO F5100 Metal Goggle and the AO F9500 Plastic Goggle feature the ultrascopic shape, a new concept which assures better seeing through a wider field of vision and improved eye protection from greater lateral protection of the lenses.

Quick Facts on the F5100 Goggle

EYEWIRE — Designed to hold lenses safely without strain. Lenses if struck will be retained more effectively against being forced out of frame.

TEMPLES — Cable and spatula types (the latter available only on goggles without side shields). Both types easily adjustable and very comfortable.

BRIDGE — Increased thickness for extra long life, permanently trued, permanently adjusted.

SIDESHIELDS — No brace bar obstructs vision. Removable, individually fitted and adjustable, double-braced for strength. Size for each frame clearly marked.

NOSE PADS — Acetate, won't corrode, easily replaceable. Very comfortable — they spread goggle weight evenly.

LENSES — Planos are interchangeable. AO Tillyer 6 curve Super Armorplate Clear or Calobar (medium, dark or extra dark) . . . with Balanced Vision.

NICKEL CONTENT — Maximum to prevent corrosion yet maintain flexibility.

ENDPIECES — Reversible on side shield model for compact folding.

PAD ARMS — Wide solder area for durability, no sharp bends, long guard arm for greater range of adjustment.

SCREWS — Deeply grooved for easy replacement of components. Wide shoulders mean long life at a vulnerable spot.

BEADED ENGRAVING — Women workers like a touch of distinction like this — an American Optical exclusive.

Always insist on the AO trademark on lenses and frames.

American Optical
SAFETY PRODUCTS DIVISION

Note! AO's F9500 Series Plastic Safety Glasses provide similar advances in engineered eye protection. Features include cup goggle type security and fitting in a spectacle, side shield goggle . . . dielectric qualities . . . safety standard flame resistant plastic frames, and other advantages.

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

(For details, use Key # W-7 on card on page 47)

Proven

BY MORE THAN

3000

Industrial users

FINE ORGANICS
SAFE-TEE®
SOLVENTS

Clean, degrease: faster — safer — more economically.

Now FINE ORGANICS' improved SAFE-TEE SOLVENTS bring you everything you could desire in all-around cleaning and degreasing agents. Note these outstanding advantages:

- **Low Toxicity greatly reduces health hazards.**
- **High flash point minimizes fire risks.**
- **Harmless to all surfaces.**
- **Will not attack electrical insulation.**

With FINE ORGANICS SAFE-TEE SOLVENTS your cleaning and degreasing work is done faster, with fewer man hours, resulting in lower maintenance costs. By reducing the time lost due to idle equipment general operating efficiency is greatly improved. SAFE-TEE Solvents are effective cleaners and degreasers for electric motors, power generators, condensers, starters, contact points, metal surfaces.

No significant residues after drying.

SAFE-TEE Solvents can be designed for your own specific requirements. Write today for "What do we mean by Safety Solvents" and complete technical characteristics of standard SAFE-TEE Solvents.

F-O

FINE ORGANICS, Inc.

211 East 19th St. · New York 3, N. Y.

(Use Key # W-8 on Inquiry Card on page 47)

New York, N. Y. *October 14–16*

First International Sanitation Maintenance Show & Conference (New York Coliseum). William S. Orkin, managing director, Orkin Exposition Management, 19 W. 44th St., New York, N. Y.

Chicago, Ill. *October 22–26*

Forty-Fourth National Safety Congress and Exposition (Conrad Hilton Hotel). R. L. Forney, Secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

Columbia, S. C. *November 8–9*

Nineteenth Annual South Carolina Accident-Prevention Conference (Jefferson Hotel). J. D. Watson, Jr., Safety Engineer, South Carolina Industrial Commission, Columbia, S. C.

Atlantic City, N. J. *November 12–16*

Eighty-Fourth Annual Meeting of the American Public Health Association (Convention Hall). Information: American Public Health Association, 1790 Broadway, New York, N. Y.

Cleveland, Ohio *January 28–31*

Eighth Annual Plant Maintenance & Engineering Show and Conference (Public Auditorium). Clapp & Poliak, Inc., Exposition Management, 341 Madison Ave., New York 17, N. Y.

Los Angeles, Calif. *February 7–8*

Seventh Annual California Statewide Meeting of the Governor's Industrial Safety Conference (Biltmore Hotel). Div. of Industrial Safety, Calif. Dept. of Industrial Relations, 965 Mission St., San Francisco 3, Calif.

New York, N. Y. *March 18–22*

Twenty-Seventh Annual Greater New York Safety Convention and Exposition (Hotel Statler). Carl F. Olander, General Chairman, Greater New York Safety Council, 60 E. 42nd St., New York 17, N. Y.

Boston, Mass. *March 18–19*

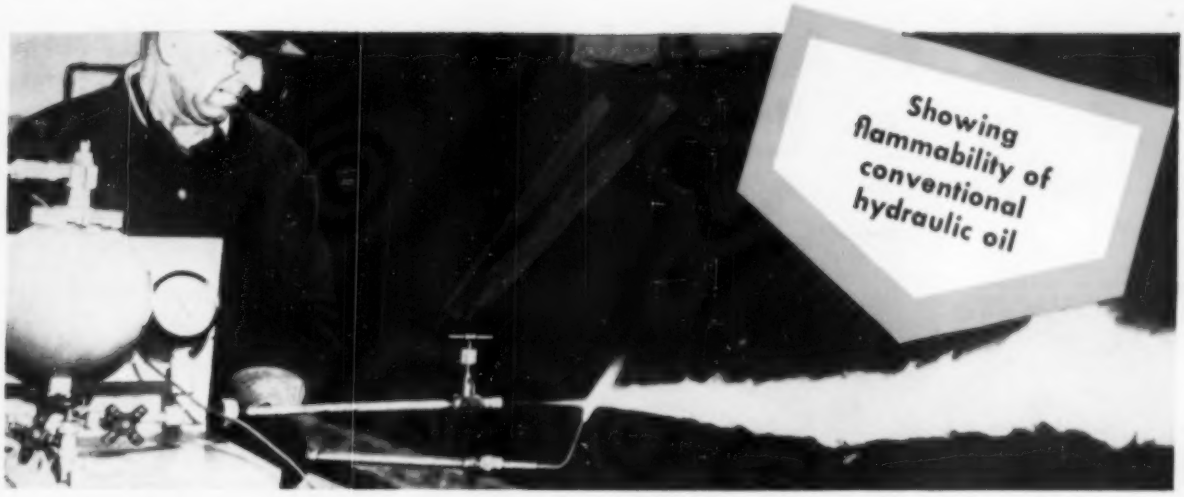
Thirty-Sixth Annual Massachusetts Safety Conference (Hotel Statler). Bruce Campbell, Manager, Massachusetts Safety Council, 31 State St., Boston 9, Mass.

Los Angeles, Calif. *March 18-20*

Fourth Annual Greater Los Angeles Safety Congress & Exhibit (Ambassador Hotel). Los Angeles Safety Council, Room 496, 610 S. Main St., Los Angeles 14, Calif.

Fort Wayne, Ind. *March 19–20*

Fourteenth Annual Northeastern Indiana Safety Conference and Exposition (Chamber of Commerce Building). Ivan A. Martin, manager, Safety Council, Ft. Wayne Chamber of Commerce, Ft. Wayne 2, Ind.



Flame tests prove its fire-snuffing ability

SHELL IRUS FLUID 902

Entirely new formula: Shell Irus Fluid 902 is a special formulation . . . product of three years' development and field testing. It is suitable for nearly all industrial hydraulic systems, as a direct replacement for presently used oils. *Here is a fire-resistant hydraulic fluid that can be widely used.*

Non-corrosive: Shell Irus Fluid 902 contains no corrosive ingredients. It has no harmful effects on seals, fittings or bearings. It does not promote rust.

No major modification necessary . . . simply clean present fluid thoroughly out of system and replace directly with Shell Irus Fluid 902. You can use it with complete confidence. Write for test data and all information.

SHELL OIL COMPANY

50 WEST 50TH STREET, NEW YORK 20, NEW YORK
100 BUSH STREET, SAN FRANCISCO 6, CALIFORNIA

SHELL

(For details, use Key # W-9 on card on page 47)

Scott Air-Paks
Cut Repair and Maintenance Costs, Safely!

Right — Old Method. Blowing air into chemical storage tank for 24 hours before man can safely enter.

Below — No Waiting. No Down Time with Scott Air-Pak protection. Man enters and does the job immediately, safely.

SAVED 24 HOURS on every Tank Cleaning Job

• Many times an old established practice is accepted as "The way it has always been done". No attempt is made to change it. Blowing air into a chemical storage tank from 12 to 24 hours before permitting a man to enter to clean or paint it, is a typical example! It's a slow and costly method. How much simpler and lower in cost to equip a man with a Scott Air-Pak—open the tank and let him go to work Immediately — Safely and Quickly!

Does tank cleaning and painting play a part in your process? Let us tell you more about the Scott Air-Pak Way.

Write for free booklet "Scott Air-Paks Save Money, Man Hours and Men for Industry!"

On Hazardous Jobs Scott Air-Paks Help Management and Labor Breathe Easier

VISION UNLIMITED

New Scottoramic Face Mask now available for all Scott equipment, (standard on most models), and for replacement on your present breathing apparatus.

Scott
SAFETY—FOR MEN
SAFETY EQUIPMENT DIVISION
SCOTT AVIATION CORP.

217 ERIE STREET LANCASTER, N. Y.

Canada: Safety Supply Co., Toronto — Branches in principal cities
Export: Southern Oxygen Co., 15 West 57th Street, New York 19, N. Y.
(For details, use Key # W-10 on card on page 47)

CHECK LIST of aids to production

Through Safety—

Safety Filter Lenses 18
Hard Caps 25
Machine Guards 28
Employee Safety Program 36
Adhesive Pipe Markers 87
Portable Foot Warmer 89
Lightweight Welding Curtains 89
Hand Tool Safety Device 90
Lineman's Glove Bag 90
Long-Wear Gloves 90
Cap Safety Liner 90
Non-Skid Gratings & Treads 91
Plastic Drum 91
Leather Silicone 91
Portable Welding Screen 91

Through Maintenance—

Industrial Lighting 17
Maintenance Painting 33
Adhesive Pipe Markers 87
Engine Pre-Heater 88
Sanitizing Floor Wax 88
Ice Melting Compound 88
Noise Reduction Panels 90
Non-Skid Gratings & Treads 91

Through Industrial Hygiene—

Fume Hood 26
First Aid Procedures 55
Synthetic Cloth Filters 60
Transferable Vacuum 60
Filter Dust Collector 61
Movable Duct Exhauster 61
Air Sampler 61
Dry Centrifugal Collector 62
Portable Fume Collector 62
Wet Dust Collector 62
Air Sampler 62
Smoke Density Indicator 63
Dwarf Dust Collector 64
Filter Attachment 64
Heavy-Duty Exhausters 65
Odor-Removing Filter Coating 66
Dacron After-Filter Bags 66
Air Filter Tester 66
Two-Channel Audiometer 87
Waterless Cleaner Dispenser 88
Sanitizing Floor Wax 88
Portable Foot Warmer 89
Portable Resuscitator 89
Audiometric Testing Room 89
Noise Reduction Panels 90
Knuckle Dressing 91

Through Fire Protection—

Extinguisher Types 72
Explosion Prevention 75
Electronic Burglar Alarm 87
Automatic Fire Vent 88
Water Fire Extinguisher 89
Lightweight Welding Curtains 89
Combustible Gas Detector 90
Tire Fire Extinguisher 91
Portable Welding Screen 91

Visit the interesting **Beltone Exhibit** at The National Safety Congress
•
Conrad Hilton Hotel
•
BOOTH 230

the first step

in a practical program of

industrial hearing conservation

Experts agree that the first step is pre-employment measurement of hearing. It is just as important as pre-employment measurement of height, weight, blood pressure or eyesight to determine a prospective employee's fitness for a specific job.

More and more progressive companies are now setting up a program of Industrial Hearing Conservation. They recognize that it is vital to protecting employers and employees from the effects of noise.

These companies have taken the first step by establishing a program of pre-employment measurement of hearing. To do this accurately, easily, economically, more and more of them have selected the portable Beltone Audiometer.

Why so many experts prefer the

Beltone AUDIOMETER

- **Precision Accuracy**
- **Ease of Operation**
- **Trouble-free Performance**
- **Low initial cost**
- **Low service cost**
- **Light Weight— only 11 lbs.**

Beltone

AUDIOMETER Model 9A

PRICE, $295

free brochure reveals all the facts

Mail coupon today for fully illustrated FREE brochure, without obligation. Discover how the portable Beltone Audiometer gives you new advantages for easy, accurate measurement of hearing.

made by

BELTONE HEARING AID COMPANY

World's Largest Exclusive Manufacturer of Audiometers and Hearing Instruments

2900 West 36th Street, Chicago 32, Illinois

Audiometer Division, Beltone Hearing Aid Co., Dept. 9-OS2
2900 West 36th Street, Chicago 32, Illinois

Full information, please, on Beltone Audiometers.

Name _____

Address _____

Town _____ *Zone* ____ *State* _____

(For details, use Key # W-5 on card on page 47)

NOW...you can have the NEW LOOK*

in ACETATE Safety Glasses, too!

* **New S-7 Bal-SAFE lens shape . . . for wider field of vision, better eye coverage, smarter appearance.**

Y-60

Last year Bausch & Lomb introduced Titan, bringing the "new look" to quality safety eyewear. Titan is a combination metal-plastic frame of remarkable strength and outstanding appearance, winning instant worker acceptance.

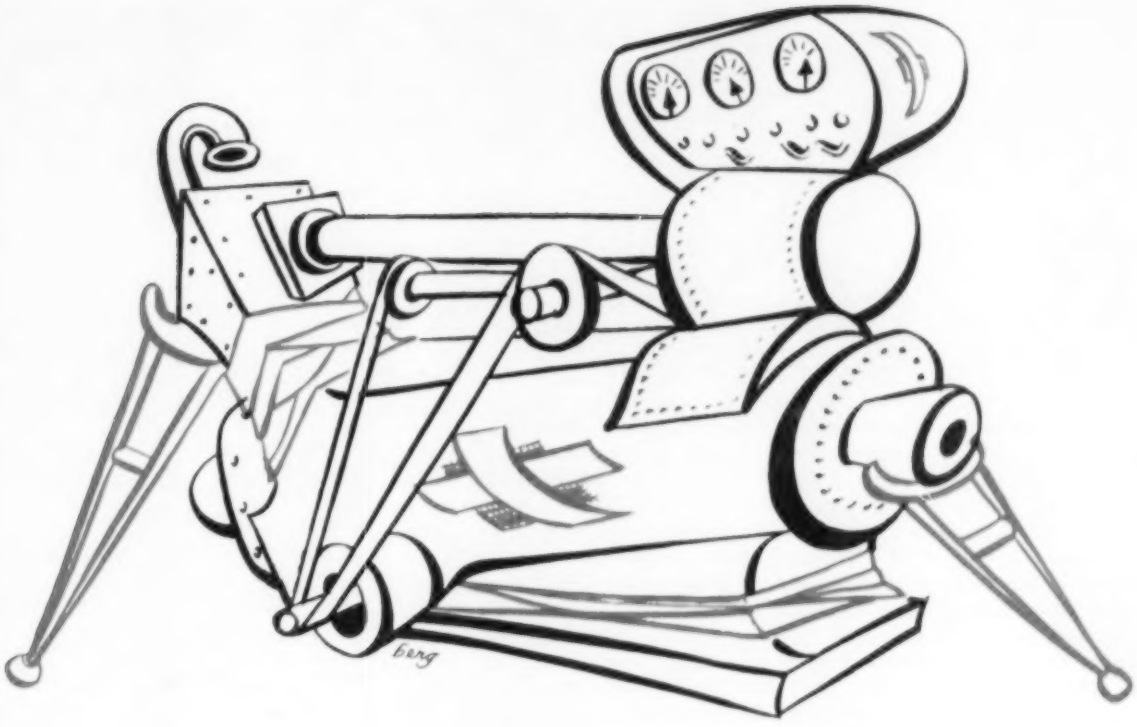
Now comes an all-plastic companion frame. Y-60 (solid nose pads) and Y-61 (adjustable pads) are made from finest quality uniform texture sheet acetate. With the outstanding new S-7 lens shape . . . with exclusive strength features in bridge, temple and endpiece areas . . . you'll want Y-60 and Y-61 frames in all proper applications in your plant immediately.

For complete information, write today for Booklet A-1458. If you don't already have it, ask for the details on Titan, too: Booklet A-1423. Bausch & Lomb Optical Co., 90510 Smith St. Rochester 2, New York.

BAUSCH & LOMB

Y-61

(For details, use Key # W-12 on card on page 47)



recipe for an accident

by **ROBERT H. EMERICK**

My Uncle Galloway Glym is a sales engineer for power plant equipment, and for years he's been calling the Apex Company his toughest customer.

"Their Chief Engineer," Uncle Galloway complains, "loves the company's nickels only a little more than his own two eyes, and he won't buy anything new until the old collapses beyond repair. His own outfit calls him 'Make-It-Do' Dugan, and right now he's making do with an old switchboard I call 'The Mankiller.' Among other hazards, this mankiller has no safety interlocks on the circuit breakers and disconnects, and the breakers themselves are 250 kw units on 500 kw circuits. I've got to make him buy a new board before somebody burns up."

Knowing there is more than one way to skin a cat, Uncle Galloway found some allies among the operating personnel, particularly Harry Jordan, the Maintenance Engineer. But Harry always kept shaking his head.

"In Dugan's book," said Harry, "new equipment doesn't need maintenance. My job is to make the old stuff do—and, well, I need my job."

"But what about safety? Suppose you get killed? Or one of your men?"

Harry shrugged.

"Let's say we all see the risk and accept it."

My Uncle Galloway feels a sales engineer bears the responsibilities that go with expert knowledge, and he kept thinking somebody should do something to protect lives in this case, but he didn't know who or what. He talked with other sales engineers, and they felt the way he did; but not one of them was making any progress with Dugan.

Then Apex decided to overhaul the turbine of their 500 kw light and power generator over the week-end, and my uncle saw an opportunity to put new pressure on the manmaker situation.

"Just give me a fast order," he said to Make-It-Do Dugan, "and we'll install modern, enclosed switchgear while the turbine is down. No time lost, and that hazard's gone forever."

"Galloway," bellowed Dugan with all the force of his red-faced, 250 pounds, "that board's been doing a job for 40 years and I can make it do for 40 more. Should I throw away the firm's money just to give you a sale?"

"Is buying safety for your plant people what you call throwing away money?"

The inference annoyed Make-It-Do deeply, because he is sensitive to his money policies, and he didn't like being told that a spade is a spade. He got up and jabbed Uncle Galloway in the chest with a fat fore-finger.

"Galloway Glym," he yelled, "that question was unethical and

uncalled for. And I don't have to take it. Not from any salesman. Get out of my office. And stay out, until you're ready to apologize and talk like a gentleman."

Uncle Galloway said, "No man needs to apologize for speaking the truth."

He went out of Dugan's office, but on Sunday afternoon he steered his long legs over to the power plant, because he was worried about the extra danger from the mankiller with a lot of maintenance people working around.

First thing he saw was the top half of the turbine casing hanging from the crane hook, and the second thing was the clean wood floor where the rubber mat used to be in front of the switchboard.

"Harry," he said to the Maintenance Engineer whose gang was working on the turbine, "wouldn't you feel safer with some 4 x 4's under the casing flanges to relieve the crane brake?"

The maintenance engineer was tired and streaked with sweat and he spoke with irritation.

"Look, Galloway, we're working against time, and cribbing up that casing would just take too much of it. Besides, the brake's good."

Uncle Galloway said, "How much time saved justifies an accident? And what about the switchboard rubber mat?"

"The mat's full of holes," Harry explained sullenly. "I couldn't risk having men trip over it, lugging parts for the turbine. We'll put it back tomorrow."

About then the telephone rang. The Maintenance Engineer picked up the receiver. With nothing much running but the other light and power turbine, the plant was very still, and the bellow from the telephone receiver could be heard by everyone within 10 feet.

"Harry? This is Dugan. I just came in and got your message. What do you mean you want to quit?"

"Yes, sir. We want to carry this job over until tomorrow. Most of us have been working 36 hours straight, and we're pooped. We'll need emergency service from the electric company for one day, beginning at 7 tomorrow morning."

"Are you crazy?" the telephone receiver almost jumped out of Jordan's hand. "Do you realize how much emergency service costs? Good heavens, man! I've worked 48 hours many times, when I was in the Army, and you can too. Either that turbine is on the line by 7 tomorrow morning, or your resignation's accepted. That clear?"

"It's clear," Harry admitted, his face turning red, "but this turbine's in bad shape. The labyrinth packing is mashed, the nozzles are eroded, and the blades were choked with silica. This job is twice what we expected."

"If it's that bad," yelled Dugan, "it's because the running engineer didn't take care of it. Tell him for me, if that turbine's not running tomorrow morning, he's fired too."

The way Dugan hung up on the other end of the line was like a small explosion.

Harry called his crew around him.

"I guess you all could hear what he said?"

They nodded glumly.

"Personally," said Harry, "I'm tired enough to go home right now. I'd rather be fired than dead. How about the rest of you?"

Fleming, the running engineer, sat down on the flange of the open turbine, and wiped the grime from his face. His eyes were red and a little swollen.

"I can't afford to get fired," he said. "And Dugan'd say I walked off the job—that I'm not dependable. Let's have some more black coffee and wrap it up."

The others exchanged glances of indecision. None of them had been promised dismissal, at least not directly. And all were dead tired. Then a husky young helper stood up and wiped his big hands on a bunch of waste.

"You guys sissies? Can't take it, huh? Well I say if that big hunk of blubber could work 48 hours, I can too. Let's leave out a couple of stages until the next overhaul, and put his turbine together. That way we can do it quick, and he'd never know the difference."

"But we'd know the difference," said Harry. "And we don't cheat. Maybe we can stick it out." He grinned sourly at Uncle Galloway. "See what I mean about fighting time?"

Uncle Galloway nodded gravely. "But what good is your job if you're maimed, or killed, tonight?" Then he added, "If you need any supplies, Harry, or parts, give me a call. I'll open the warehouse for you at any time. Good luck—and be careful."

Then Uncle Galloway went home, feeling very depressed at the way some people go through life, and he was glad he wasn't working for Dugan. He was sound asleep at 2 o'clock on Monday morning when the telephone wakened him. It was Harry Jordan calling from the plant for some special gasket material. They were ready to close up the turbine and couldn't use the old.

"I'll bring it right over," promised Uncle Galloway and popped out of bed.

He found the top half of the turbine casing suspended just a few inches above the lower half, waiting for the joint seal he was bringing. Fleming was sitting on a chair well out of the way, his head wrapped in a bloody bandage.

"Tripped over a stray wrench," he grimaced, "and tried to crack open the turbine base with my head. Couldn't do it."

"I told him to go home," said Harry Jordan. "He's got an excuse. And the job's under control."

"Gimme some black coffee," said Fleming. "This turbine is my baby. I want to throw the switch that puts her on the line."

"I'll stand by, too," said Uncle Galloway, seeing the night was nearly over. "You might need something else."

At 5:30 the turbine was closed up and ready for trial. Steam was turned into the casing and warming up began, the rotor jacking over slowly. By 6:30 it was turning at rated speed, but without load. Bearing temperatures remained normal, there were no unusual sounds, no vibration, no gland leakage, and apparently the job was done.

Harry Jordan gave a loud whistle of relief.

"Thank Heaven!" he said to all within hearing. "Except for Fleming's head, we've made it without serious injuries. Let's put her on the line."

"This is what I've been waiting for," grinned Fleming under his bandages, and he got up and started for the switchboard. He walked a little unsteadily, probably

from the combined dizziness of extreme fatigue and the blow on his head.

The Maintenance Engineer saw this and called:

"Wait a minute. You all right?"

"I could start her in my sleep," said Fleming, and he shoved in the circuit breaker. Nobody saw exactly what he did after that, but everybody heard his brief, wild cry, and their eyes were momentarily blind in the white flash, and they heard the sizzling of the arc. Then all was still, and in the grayness of the morning the switchboard seemed black and dead.

Men jumped and ran to the board, but none of them could do anything for Fleming. He was crumpled on the floor when they reached him, lying where the rubber mat should have been, and in his blackened right hand was the burned handle of the disconnect switch. Around him on the clean floor were splatters of melted metal, and over everything was the ugly smell of burned human flesh.

Uncle Galloway swallowed against the nausea in his stomach and went to the telephone. He rang up Dugan.

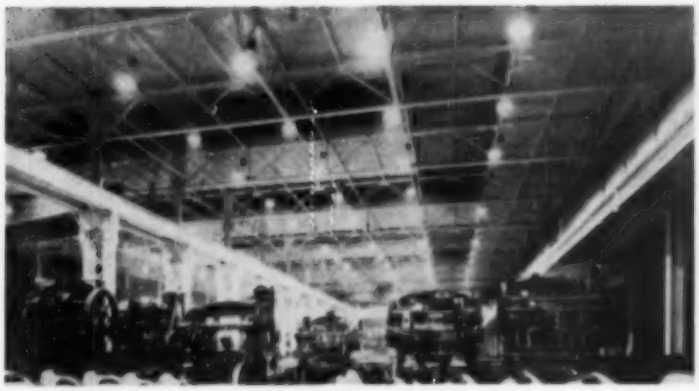
"Fleming's dead." he announced bluntly. "Just burned to death on that mankiller switchboard of yours."

"What?" said Dugan.

"He opened an unprotected disconnect switch with his bare hands," said Uncle Galloway, and hung up. He felt too bad to say any more.

Then he went to the engineer's log book, opened it to the proper date and wrote across the page: "Today's best recipe for an accident: just make things do."

"OK for today but tomorrow I want to see a regulation hard-hat."



Large Lamps Save on Power Bills

by PAUL C. ZIEMKE

Like dirty lighting fixtures and lamp bulbs, there is no real economy in underlamping fixtures on the mistaken assumption that smaller wattage lamps will definitely spell lower meter readings. Lighting economy begins with a well planned maintenance program to keep all the fixtures clean. This can be done on a large scale basis by bringing the cleaning shop right on the job through use of detergent-containing tanks mounted on a four-wheeled cart. The cart can also carry a full assortment of rags, paper tissue, fixture parts, and a complete complement of lamp bulbs or tubes. Even a small magnesium metal step ladder can be strapped on the cart for the relatively low units.

Just by way of convincing the doubting Thomases about the fallacy of using smaller lamp bulbs to save on power bills, we have made a thorough study of the situation by use of foot candle meters and clamp on type ammeters. Some fixtures were discovered that had evidently been selected to satisfy the whim of some procurement engineer. While these were quite decorative their peculiar design precluded the use of large wattage lamps and necessitated the use of numerous smaller wattage lamps. The uneconomical aspect of this practice is shown in Table 1.

One ornamental type fixture using a semiopaque glass shade, fitted with three 100-watt lamps was found to produce 4,890 lumens at 2.49 amperes. This fixture with only a fractional increase in amperes (2.5 as against 2.49) when wired for one 300-watt bulb produced 5,900 lumens—a net gain of 20 percent more light. This is in line with the fact that one 100-watt consumes 17 percent less current and furnishes practically equal illumination to two 60-watt lamps.

Obviously, the reduction in numbers of sockets and associated wiring spells less maintenance costs, fire hazard, and eventual replacement costs. There is also an appreciable saving when purchasing larger quantities of given sizes, plus the reduction in stocking space in the storeroom.

Picture by courtesy of Briggs Body Plant.

TABLE 1: EFFICIENCY DATA ON 120 VOLT LAMPS

Watts	Normal Amperes	Initial Lumens	Lumens Per Watt
25	0.21	260	10.4
40	0.34	465	11.7
60	0.50	835	13.9
100	0.83	1,630	16.3
150	1.25	2,600	17.2
200	1.67	3,650	18.3
300	2.50	5,900	19.6
500	4.17	9,950	19.9
1000	8.3	21,500	21.5
1500	12.5	33,000	22.0
2000	16.7	44,000	22.0

Safety Lenses for Radiant

When protective lenses or filters are designed for industry, a number of factors must be taken into consideration, such as possible injury from flying particles, moving machinery, or other obstructions encountered in moving about, radiant energy emitted by equipment operated by others, etc., as well as the ultraviolet, visible, and infrared emitted by the operator's equipment. This article is devoted primarily, however, to eye protection from the standpoint of absorption of the ultraviolet, luminous, and infrared rays.

Merits First Attention

In industry the elimination of harmful ultraviolet rays must be given first attention, because they will produce great injury without a warning of any kind. It is only after the damage has been done (some four to six hours later) that their effects begin to appear in the form of a conjunctival irritation, "sand in the eyes." Although a small amount of ultraviolet may not produce permanent injury to the eyes, the only safe procedure to follow in writing specifications is to exclude completely all harmful ultraviolet rays.

In the case of the infrared rays, since their action is primarily thermal, the worker is generally forewarned by the burning sensation that is felt immediately on viewing sources emitting intense infrared radiant energy. There is less danger of injury in this case, and in many industrial operations there may not be sufficient infrared radiant energy to produce permanent injury. Nevertheless, unwarranted risk should not be taken, since severe injury may result through continuous exposure for long periods of time to intensities that might not be recognized as dangerous. The federal specifications covering protective goggles and glass filter lenses for use by industrial workers require almost complete elimination of both the ultraviolet and infrared rays.

The luminous transmittance of a lens determines its suitability for a particular operation (after its ultraviolet and infrared transmission characteristics have been satisfied). For uses other than in protective goggles or filter lenses, the requirements relating to radiant energy transmittance may be made much less stringent. For example, under conditions wherein a plastic face shield may be required to protect either the operator or persons near a particular operation from flying particles, radiant energy transmission characteristics may or may not even enter into consideration in the choice of material to be employed, provided the workman wears an acceptable pair of filter lenses over the eyes to control the invisible radiations of the process to which he is exposed. Choice may be made on mechanical considerations alone. In this connection impact strength, hence thickness of the material, is an important factor in establishing the ultimate safety in the use of any of the plastic materials in eye-protective devices. For many purposes thicknesses under 2 to 3 millimeters should be considered unsafe. For such items as sunglasses or eye shades that will be used in sunlight or around indoor illuminants in ordinary use, luminous transmittance is of most importance.

In connection with the many attempts to find a substitute for glass for certain optical purposes, numerous investigations have disclosed possibilities in the use of several of the plastics. During World War II the Polaroid Corporation did a considerable amount of work under a National Defense Research Committee government contract on the development of cast precision plastic optics. Two materials offering promising results, the one polycyclohexyl methacrylate and the other polystyrene, were found to be satisfactory replacements for crown and flint glass, respectively, in optical compounds for a number of purposes. For other purposes, a special plexiglas formulation has been found generally satisfactory.

Produces Harder Surfaces

Plastic lenses having good qualities have been formed by both the injection and compression molding processes. The latter, however, produces harder surfaces. Of course, in all cases the surface hardness of the available plastic materials when molded is far from that of glass, and consequently the surfaces are subject to scratching. Methods are under investigation for coating plastic lenses and prisms with a hard plastic surface. A comparative study covering the mar and abrasion resistance of some 50 plastic and resin compounds indicates definite differences among available materials in their ability to withstand scratching and general surface deterioration. Some materials attained a higher score on certain tests, a lower one on others. Of course, all plastics were rated

Energy

much lower than glass on most of the tests, so that glass remains supreme for most precision optics.

Glass optics are, however, with few exceptions, finished by mechanical grinding and polishing. This limits their surfaces to planes, spheric, cylindric, or spherocylindric forms—that is, simple geometric curvatures readily reproducible by mechanical motions. Thus a glass lens, although quite accurately formed into one of the possible mechanically reproducible shapes, is optically rudimentary, being accurate only for paraxial rays and therefore requiring stops to reduce aberrations. Surfaces of a high order of optical perfection (aspheric) are possible only through difficult hand-modifying operations. On the other hand, plastic elements cannot economically be polished to shape but can be made with hand-corrected molds.

Cover lenses are used primarily as a protection against the pitting of the filter lenses. They are ordinarily of inexpensive clear glass that may be replaced from time to time as the surface becomes pitted or defaced through use. They offer also some mechanical protection. A number of the plastic materials have been found to be more effective than glass in protecting the filter lens from injury. Because of the physical characteristics of the plastics, flying particles, molten metal, and solids produce less pitting and breakage. The lesser affinity or greater resiliency of the plastic allows many of the particles to bounce off without damage to the surfaces. In this respect some plastics are much superior to glass. Certain comparative tests between plastic, glass, and plastic-coated glass indicate greater endurance and higher light transmittance after use for the plastic-coated glass cover lenses. Since the three types are readily available, much information along this line may be easily obtained through their controlled use in industry for various types of work.

Filter Lenses in Industry

If plastic filter lenses are to be employed in industrial operations, where there is a high density of radiant flux of such wavelengths as will injure the eyes, then these plastic filters should have absorption qualities in conformity with the best information relative to the amount of radiant energy permissible. The federal specifications are based on this information. Plastic filters may easily be made to conform with the requirements of the federal specifications relative to ultraviolet and luminous transmittance, but have not as yet been made to conform in the infrared spectrum without the addition of a metallic coating.

At present, manufactured glass filter lenses absorb about 96 percent of the incident radiant energy not transmitted. The heat thereby absorbed by the glass is lost by convection, conduction, and reradiation. Of the part reradiated, about one-half is radiated in the direction of the operator's eyes. Hence, even the stringent infrared requirement of the specification has been in part defeated. If, in other words, a significant part of the radiant energy eventually reaches the eyes through the glass, then the substitution of plastic filters having a direct transmittance simply increases this amount. It may be that for certain operations, where the amount of infrared radiant energy is not excessively high, plastic

filters without metal coatings may be found satisfactory. Through the use of metal coating, not only is the infrared transmittance reduced to a low value (dependent upon the thickness and type of metal), but also the heat absorption of the filter is reduced to a minimum by the metal reflecting surface, thus producing only an insignificant reradiation toward the operator's eyes. Recently, some of the glass filter lenses have for this reason been metal coated. Some operators, as well as nearby personnel, have been troubled by "ghosts" as a result of the metallic reflection from the front surface of the coated filter lens and have reversed the lens so that the metal coating faced the eyes. This procedure, however, permits radiant-energy heating of the filter lens, thus for the greater part defeating the purpose of the metal coating.

In cases where the radiant flux density is high, where adequate mechanical protection is not afforded by standard filter glass, and where it is not feasible to use a metal-coated plastic filter, an alternate solution is to place a clear plastic plate in back of the standard filter glass. The transmissive characteristics of the glass filter are retained while the added mechanical protection of the plastic filter is afforded.

Head and Face Shields

Plastics are becoming very popular in head, eye, and face shields of all types, whether it be in industry where a clear shield may be required for use in grinding or in handling corrosive liquids, or for a sun visor in a cap or an automobile, or for any one of dozens of other applications. In some cases the absorption of radiant energy, especially in the ultraviolet, is very important. In other cases only reduction in luminous intensity is necessary. The particular application will determine the type and optical density of plastic required. For a great many applications the available green-colored materials are found satisfactory. The impact strength, that is, the type and thickness of material, is an important factor where protection from flying particles is required. The indiscriminate distribution of thin or weak plastic shields may become hazardous through their misuse in industry.

Plastic goggles are available in a number of types and styles. Some have removable lenses which may be of the single window type and of various colors and densities. Others are single molded units. The large single or double window types permit the use of prescription spectacles worn underneath. This is very important for workmen on critical tasks requiring maximum protection where significant eye correction is required and it is not provided through a hardened industrial safety goggle lens. If such correction is not provided for, production is slowed down, the workman is uncomfortable, and costly accidents and personal injury often result.

Sun Glasses

Sunglasses are required by most people at certain times when more luminous flux strikes their eyes than that to which they are normally accustomed. Most of us use some care in choosing the optical equipment we wear. If the glasses are to be worn in some activity in which the safety of ourselves or others is at stake, great care should be observed in their choice. This applies especially to highway driving in the daytime. A great many of the driving glasses on the market are of poor quality. Not only should the lenses be of good optical quality but they should also have the proper optical density to make seeing comfortable and efficient. They should be large enough—much larger than the standard prescription glass—to cover the field of view sufficiently not only for comfort's sake but for safety.

Since the human eye has the important ability to distinguish colors, that fact must be taken into consideration in the choice of sunglasses. On the average, 24 out of 25 people possess the power of distinguishing the same range of colors, and to the same degree; but 1 of the 25 is defective in chromatic vision, that is, partially color blind. Even a person with normal color vision is rendered somewhat color blind when looking through colored eyeglasses, especially when one or more regions of the spectrum is highly absorbed in relation to other spectral regions. Hence, it is very important that the glasses, worn for protection or comfort, shall not seriously impair one's efficiency in color discrimination.

Sunglasses should be worn only at those times during which the eyes require protection. After sundown or before sunrise the use of sunglasses is not only unwarranted but may be hazardous; yet they are sometimes worn at these hours. Through the continued use of dark lenses, it has been found that the eye becomes more or less accustomed to a lower level of illumination, so that glare may result to about the same extent as if no dark glasses had ever been worn at all when the eye is exposed to a higher level of illumination. On the other hand, if a person spends a major part of the time out of doors in sunlight, the eye becomes accustomed to the higher illuminances so that it may be possible to see comfortably without any glasses at all. Moreover, most of us require protection during those times when we are outside in bright sunlight, because the greater part of our lives is spent indoors under a lower level of natural or artificial illumination.

It has been found, furthermore, that exposure of the eyes to high densities of radiant flux, especially of the shorter wavelengths, during the day results in poor "night seeing" as the result of certain photochemical or other changes in the eye. During the war, night fliers and airplane spotters were required to wear red dark-adaptation glasses during the daylight hours in order to prepare their eyes for best seeing at night. It often requires days to recover loss of good seeing at night through having the eye unprotected for a few hours in sunlight. Many night highway accidents on beach roads should therefore be credited to poor night seeing resulting from the effects of the glare of beach sand and water on the eyes of the driver during the day.

As the maximum of the visual response is in the yellow-green, it has been suggested that a filter lens having a hue in the yellow-green or greenish yellow portion of the visible spectrum be used for outdoor daytime wear. Sunglasses of this color are finding favor in

Blue Blazes

Synthetic Cleaner now contains HCP!

BLUE BLAZES, the powerful synthetic cleaner, has been made *even more powerful* by the addition of HCP. The HCP ingredient activates BLUE BLAZES to provide *instantaneous penetrating action.*

How does it work? BLUE BLAZES, with HCP, immediately attacks dirt, oils, and any other foreign material that may be on the floor.

It penetrates grime, surrounds the particles, lifts them off the floor, and holds them in suspension until removed with a wet pickup vacuum, squeegee, or mop.

As gentle as rain water. It's completely safe, too. Though it overpowers dirt and grime in an instant, BLUE BLAZES with HCP is *chemically neutral* (pH of 7 in solution).

Non-Ionic. Because it is completely non-ionic, BLUE BLAZES with HCP is able to pick up both positively and negatively charged dirt particles. Also, it leaves no film or other residue which would help create static charges which attract and hold dirt particles to the floor.

Works in hard water or soft. BLUE BLAZES with HCP works in any kind of water . . . cold or hot, hard or soft. This makes it ideal for all phases of floor maintenance.

Because BLUE BLAZES is a free rinsing cleaner, no hard water scum or soap residue is left behind to dull the beauty of your floors.

You have to see it to believe it! Ask your local MULTI-CLEAN man to demonstrate how quickly BLUE BLAZES with HCP will clean your dirtiest floor. You'll be under no obligation whatsoever.

MULTI-CLEAN PRODUCTS, INC., Dept. SMP-26-106
2277 Ford Parkway, St. Paul 1, Minnesota

☐ I'd like to see for myself what BLUE BLAZES with HCP can do for my floors. I understand demonstration will be free and I'll be under no obligation.

Send information on care of: ☐ Concrete, ☐ Wood, ☐ Asphalt Tile, ☐ Terrazzo, or ☐ _____ floors.

Name _____ Title _____

Address _____

City _____ Zone ____ State _____

(For details, use Key # W-13 on card on page 47)

aviation, in automobile driving, and in recreation. The slight distortion in object color, that is, the reduction in the brightness of the blues and reds may be offset by certain gains (such as keeping the eyes cool) through the elimination of radiant energy of low luminous efficiency.

The use of vivid green sunglasses should be avoided for such purposes as driving, since they may almost completely obscure a red traffic light. Similarly, an amber or yellow lens may greatly reduce the visibility of a blue-green light.

High quality sunglasses usually cost considerably more than the cheaper varieties widely displayed in the average corner store. As a result, many people who are not in the position to purchase expensive sunglasses obtain glasses of low optical quality. This may not be a happy situation because of the many optical defects often present in such glasses. Distortion which may occur in the cheaper type lenses may be very objectionable. Prism differences between the two lenses of a pair produce eye strain and fatigue. The presence of more than a very small degree of power is annoying. In general, the defects that may appear in the cheaper sunglasses result in disturbed vision, headaches, and general noncomfort in seeing. Even improper fitting of the frames may place the lenses in the wrong position in front of the wearer's eyes and create distortion.

Should Be Best Grade

It is advisable and highly desirable to obtain the best grade lenses where safety is involved. The cheaper grades serve amply well under many conditions where safety is not involved. In applications of this type, caution should, however, be observed in the use of plastics, since presently available materials do not absorb highly in the infrared region of the solar spectrum. The practice, sometimes noted, of sun bathers lying face upward with the sun shining through the plastic-type sunglasses onto the closed eye is very hazardous, since the dyed plastics absorb much less of the infrared than of the luminous rays. High intensities of near infrared may become focused upon the retina of the eye, since both the plastic lens and the eyelid are relatively transparent to these rays.

Glasses for Driving at Night

For many people, driving at night is an arduous chore and, as they suffer eye fatigue through meeting car after car with blinding lights, the task gradually leaves them in a lowered state of driving efficiency. If the driver attempts to eliminate the glare by wearing dark glasses, his entire field of view is correspondingly darkened. In a summary report of a survey by the National Safety Council the various authorities questioned were unanimous in the belief that the advantage of reducing glare from automobile headlights by wearing dark glasses is more than counterbalanced by the extra hazard arising from the decreased visibility of objects. In other words, sunglasses should never be worn in driving at night.

(Continued on page 24)

CLEANING PARTS WITH INFLAMMABLE LIQUIDS CAN CAUSE DISASTROUS FIRES!

KLEER-FLO SOLVES PROBLEMS WITH SAFETY EQUIPMENT AND HIGH FLASH POINT SOLVENTS

SAFE!

CLEAN PARTS 3 WAYS — SAFELY!

1. Continuous Flow Hose
2. Air Agitated Soaking Tank
3. "Super Power" Jet Air Gun

Adapted for Critical Cleaning of Automatic Transmissions and Power Steering Units

A continuous flow pump strains, filters and ejects abrasive foreign material and returns clean Kleer-Flo Hi T Degreasol or M-467 Cleaning Fluids through the semi-rigid hose to the upper soaking tank.

Fire hazard is reduced by a quick action fusible link in self-closing cover.

Efficient patented electric pump is driven by a fan-cooled brushless, sparkless motor.

Kleer-Flo Model 30 (less Jet Air Gun) also available

SAFE!

CALL, WIRE, WRITE FOR INFORMATION

America's Foremost Producer of Parts Cleaning Equipment

PRACTICAL MFG. CO.

2840 4TH AVE. S. • MINNEAPOLIS, MINN.

(For details, use Key # W-14 on card on page 47)

DUPOR No. 4

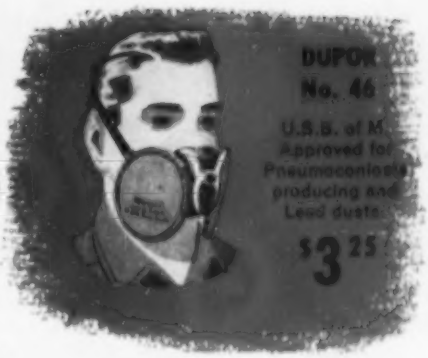
For nuisance dusts and fumes. Weighs only 4 oz.

$2.00

DUPOR No. 40

U.S.B. of M. Approved. Has 40 sq. in. filters for Pneumoconiosis producing and nuisance dusts.

$3.00



DUPOR No. 46

U.S.B. of M. Approved for Pneumoconiosis producing and Lead dusts.

$3.25

DUPOR No. 1

Miniature nose mask for nuisance dusts and fumes.

$1.20

DUPOR No. 24

U.S.B. of M. Approved. Has 24 sq. in. filters for Pneumoconiosis producing and nuisance dusts.

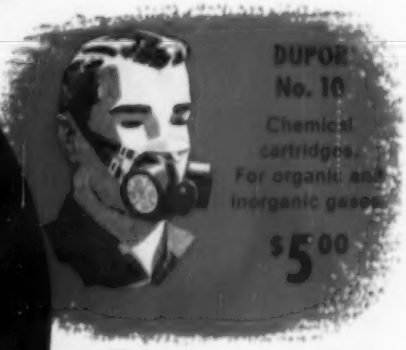
$3.00

Wear a Genuine

DUPOR

Respirator

light weight · greater visibility · no blind spots
face cloth for personal sanitation · panorama view
controlled breathing · exclusive patented features



DUPOR No. 10

Chemical cartridges. For organic and inorganic gases.

$5.00

DUPOR No. 20

Double sponge, for cool, water-washed breathing.

$2.50

H. S. COVER
P. O. Box 2508, South Bend 14, Ind.

DUPOR Automatic

With sponge filter for water-cooled breathing.

$2.25

DUPOR Smoke Mask

Equipped with "Nod & Shake" fog-proof, gas-tight goggles.

$5.00

COVER'S "Nod & Shake" GOGGLES

Gas-tight, fog-proof. Wear with any respirator.

$2.00

(For details, use Key # W-15 on card on page 47)

Safety Lenses

(from page 22)

On the basis of light transmittance, the use of any colored glass would reduce night visibility, especially since the available light is already extremely low. However, the use of a yellow glass that reduces the luminous radiant energy but little, while it eliminates the ultraviolet and short-wave visible violet and blue, has been found, at least according to the subjective reports of many individuals, to aid in reducing glare and in shortening recovery time (that is, to reduce light shock) from temporary blinding by oncoming headlights in night driving. Many drivers report an added comfort and an increased feeling of security on the highway while wearing yellow glasses, and that it is easier to see objects on the roadway close to the headlights of the approaching vehicle.

Reduction in light shock is accomplished through the reduction of luminous radiant energy flashing upon the eyes. Since the eye is at least partially dark-adapted in night driving, the light shock reduction may be much greater than the loss in light transmittance resulting from absorption in the yellow glass. Hence, the result may be a basic advantage, in terms of less light shock, in the use of the yellow glasses. This factor possibly accounts for many subjective reports showing greater comfort through their use in night driving.

This is a controversial subject, however. If the driver operates in greater comfort and with a feeling of increased security, will he drive faster and thus be involved in more accidents because he has insufficient time to see highway obstructions? Or will his increased driving efficiency, as the result of greater comfort and increased confidence, more than counterbalance the decrease in object visibility distance because of light absorption in the yellow glasses? Much careful research will probably be required to give a final answer on this subject.

From the American Standard Association's Z-2 report "The Spectral Transmissive Properties of Plastics for use in Eye Protection." Copies of the full report can be purchased for $1.50 from the ASA at 70 E. 45th St., New York 17, N. Y. Picture by courtesy of Hamilton Watch Co.

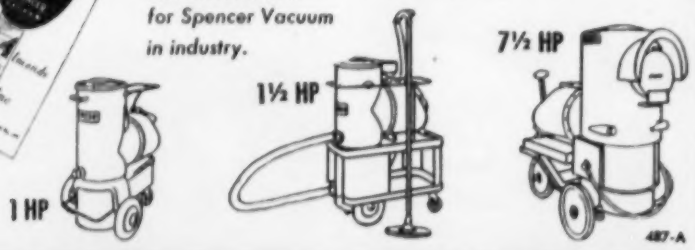
Sanitation costs less with SPENCER vacuum

Take the job of handling hot materials, removing fly ash, picking up spilled liquids or handling fine chemical powders. Consider the time saved, the comfort and safety involved when these tasks are done with Spencer Vacuum.

Then consider that these Spencer machines will clean your plant and your machines at night—faster and at lower cost. That you can reclaim foods, chemicals, and metals, can speed up the assembly and inspection lines—in fact you can be sure that not only your plant, but your finished products are always clean.

Spencer representatives have special information on more than 100 special applications that can improve your plant sanitation and increase production.

Send for Bulletin No. 144 describing 132 unusual uses for Spencer Vacuum in industry.



487-A

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER HARTFORD

(For details, use Key # W-16 on card on page 47)

N. Y. Safety Show

New York's 27th annual Safety Convention and Exposition will be held for five days, beginning March 18, 1957.

The convention dates and general chairmen were announced by the Greater New York Safety Council, which sponsors the annual event in cooperation with seventy-five government agencies, engineering and industrial organizations, civic, safety and insurance groups. The convention and exposition draws an annual attendance of 10,000 safety experts, accident prevention workers, traffic administrators and law enforcement officials from all over the nation. The sessions, covering almost all phases of accident reduction, and the exposition of safety equipment and devices, will be held in the Hotel Statler.

Reginald M. Cleveland, Council president, announced that Carl F. Olander will be general chairman, with Lewis R. Morrison and Robert M. Edmiston as general vice-chairmen.

miners' cap lamps do bridge duty

Riveters on superstructure of Mackinac Bridge leave the interior of tower. Lamps are needed to light up dark walls where they work.

Electric cap lamps, usually associated with miners at work far below the surface of the earth, are also being used by bridgemen high in the air on the superstructure of the Mackinac Bridge which will link the upper and lower peninsulas of Michigan.

The four 552-foot towers, from which the cables for the 8614-foot suspension bridge will be supported, are erected from the "inside out." Riveting and welding is done in dark, confined cells where conventional lighting systems cannot be installed.

Good illumination is essential on the job because every web plate and rivet must be installed perfectly, according to D. C. Kline, manager of the project for the American Bridge Division of the United States Steel Corporation.

Not Practical, Economical

Use of dry cell batteries for the work would be neither practical nor economical. These are not always dependable and the light provided would not be adequate. In addition, failure of a lamp on the job offshore could cost the services of the man using it.

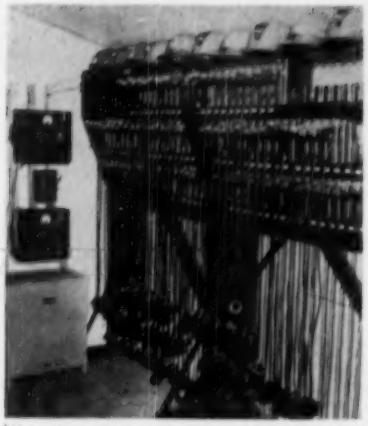
The American Bridge official pointed out that it would be impractical to use electric wiring on such a project because of the remote location of the towers, plus the fact that bridgemen work in areas where stringing of extension lines would create a footing hazard. Abrasive wear on wiring insulation could cause short circuits resulting in serious injury to the workmen.

Electric cap lamps, powered by nickel-iron-alkaline batteries, are used on the job. The lamp headpiece fits on each man's protective helmet. This arrangement frees both hands of the bridgemen, making their individual jobs safer and more efficient. Safety belts also are required gear on the job.

At the end of the working shift, lamps are checked in at the contractor's lamp house, much in the same manner as the practice at coal and metal mines. Lamps are placed in charging racks after every shift to assure brilliant illumination over the full 10-hour work period.

Charging the batteries is a simple matter. The lid of the battery case is opened magnetically and the entire assembly is inserted in slots of the charging rack where the battery terminals contact the charging line. The charger shuts off automatically after eight hours.

Wearing heavy duty overalls of many trades, seamen's life vests (they cross choppy waters) and miners' lamps on hard hats, riveters' occupation might stump many.



With the day's work done, bridgemen turn in cap lamps, which receive 8-hour charge for next day.

Bridgemen, in addition to using miners' cap lamps, also wear life vests of seamen. To reach the towers each morning they must ride personnel boats across the choppy waters of the Straits, and at times some of their work at the towers is over or near the water.

The Mackinac Bridge, when completed in 1957 at a cost of $100,000,000, will be the longest suspension bridge in the world, 8614 feet. The length of the main span between the towers will be 3800 feet, and the entire length of the bridge and approaches will be more than five miles—26,444 feet.

Towers for the bridge will rise 552 feet above water, while the piers on which the towers are being built reach a depth of 206 feet below the water. More than 41,000 miles of cable wire will be used in the structure, and the total weight of the superstructure will exceed 66,000 tons.

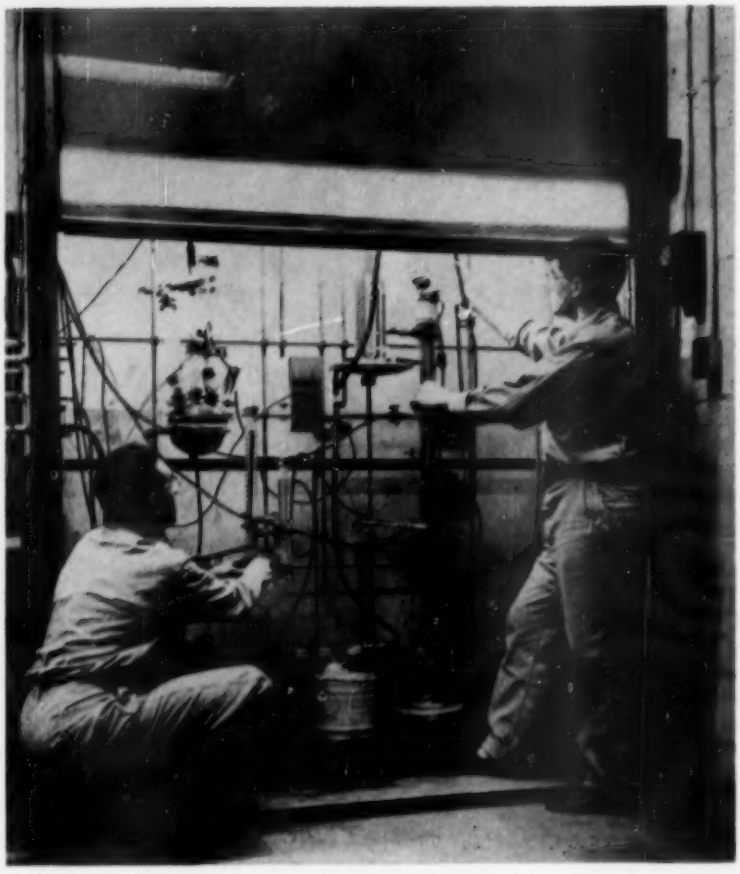
Pictures by courtesy of Mine Safety Appliances Co.

Watchman Standard

Revised NFPA standard No. 601, The Watchman, has just been published by the National Fire Protection Association. Revisions deal with the frequency of watchmen's rounds in different types of plant operations and were adopted officially at the NFPA Annual Meeting in Boston.

The Standard is now available in pamphlet form from the NFPA, 60 Batterymarch St., Boston, at 35¢ per copy. It is also included in the 1956 edition of the National Fire Codes.

A SAFETY IDEA



Walk-In Fume Hood

It's handy to have fume hoods with the benchtop working space at waist height. But, as every research chemist knows, to set up equipment in such hoods often means some awkward ducking, and leaning, and neck-crimping.

That's why researchers at Stauffer Chemical Co.'s Eastern Research Laboratory are pleased with this new eight foot high, walk-in hood. They can set up equipment easily—with no grunts or groans. They can use tall distillation columns and tend their equipment simply—walk right around it if it makes adjustments easier. Glass fronts are explosion resistant. Hoods are vented to a roof-top deodorizing unit.

Quiet Please!

they work for it at CARBORUNDUM

Striving for the very best in working conditions, modern-day concerns are taking precautions against the effects of industrial noise. So it is at The Carborundum Company of Niagara Falls, N. Y. Wherever it is suspected that the noise level exceeds safe limits, G-R sound-measuring equipment is brought in by Carborundum's Staff Safety Branch for an investigation. To gain a broad understanding of conditions present, the very compact and easily usable Sound-Survey Meter is used first. If further study is necessary, the highly accurate Sound-Level Meter and Octave-Band Noise Analyzer are used to obtain data on which to base alterations and improvements.

Preliminary investigations with the Type 1555-A Sound-Survey Meter, $140 . . . for rapid and reliable surveying. Sound-level range is 40 to 136 db. Instrument is battery operated and self-contained, weighs less than 2 lbs.

Detailed Analysis with Type 1551-A Sound-Level Meter, $370 And Type 1550-A Octave-Band Noise Analyzer, $535 . . . equipment for thorough investigation of sound environment. Combination measures sound levels over wide ranges with speed and high accuracy, and makes possible analyses to ascertain speech-interference levels and to determine noise spectra of industrial machinery and apparatus.

"Here, G-R sound-measuring instruments determine the noise level near a vertical turret lathe in our new machine shop. The small, convenient Sound-Survey Meter enables us to locate possible trouble areas quickly . . . after which we use the Sound-Level Meter and Octave-Band Noise Analyzer to chart the level, in decibels, in each of the eight octave bands covering the range from 20 to 11,000 cycles. Corrective action is based on these findings."

C. H. Seymour, *Safety Director*
The Carborundum Company

A Broad Line of G-R Analyzing Instruments and Accessories are available.
WRITE FOR THE G-R SOUND BULLETIN FOR COMPLETE INFORMATION.

. . . for Sound Measurements

GENERAL RADIO Company

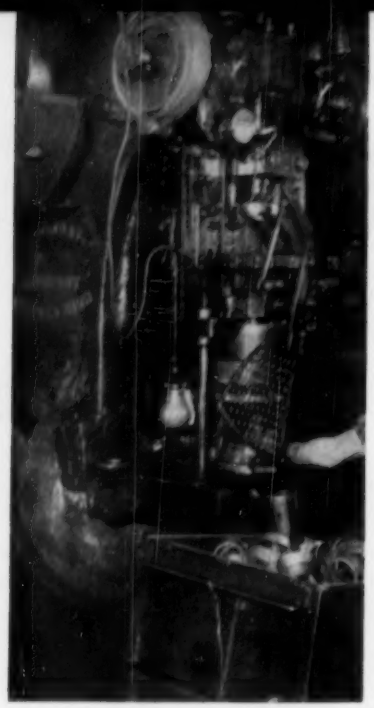
275 Massachusetts Avenue, Cambridge 39, Mass., U.S.A.

90 West Street **NEW YORK 6** • 8055 13th St., Silver Spring, Md. **WASHINGTON, D. C.**
1150 York Road, Abington, Pa. **PHILADELPHIA**
920 S. Michigan Ave. **CHICAGO 5** 1000 N. Seward St. **LOS ANGELES 38**

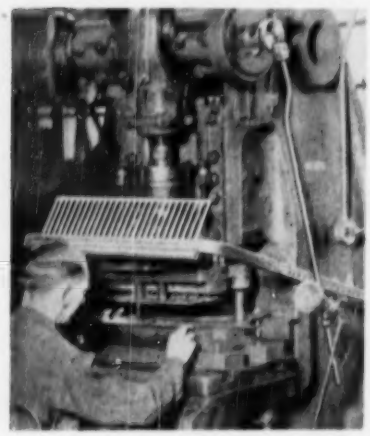
(For details, use Key # W-17 on card on page 47)

Guarding the Hard to

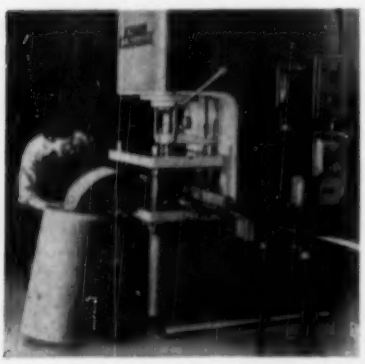
by **JOSEPH P. MARCHETTI**
Senior Factory Inspector
New York State Dept. of Labor



Picture displays rejection type guard which sweeps operator's hand away from danger.



This gate guard for press prevents operation of latter until guard is in "down" position.



Use of this mechanical press feed eliminates need to put hand within the danger area.

A **hard to guard** machine may be defined as one which, due to the nature of the work or inherent unfavorable design, renders guarding the point of operation or other dangerous mechanism by the usual application of safety engineering principles difficult to achieve.

The past twenty years has perhaps seen the greatest strides in the safety movement. This improvement has been manifest in many ways. Gratifying results have been achieved in the development and adaptation of safeguards for machinery in the various industries; physical hazards of diversified types have been eliminated or minimized; safety consideration to some degree has been given by both machine and structure designers to the tools going into the production lines and to the physical facilities housing these units; conditions endangering health and well-being are constantly being evaluated and improvements initiated; psychological research is in progress to seek the relationship between human behavior patterns and the stimuli encountered in the routine working environment and in the individual's home life; while a more realistic and considered approach is being made in proper worker placement based on individual aptitude, skill, and mental and physical capabilities required by the specific occupations. This appreciation of the factors affecting safe and efficient production has resulted in safer workplaces, and in an ever-increasing safety consciousness among the men and women who work in industry as well as their executive leaders.

Notwithstanding this advancement, many so-called hard to guard machines are still found in many industries; and many more find their way each year onto the production lines. Circular saws, shapers, jointers, power presses, special metal forming and shaping units, extruders, molders, diversified food processing and packaging units are a few of the examples that still constitute a serious operational exposure. In this respect the small plants are, perhaps, the worst offenders. Management in the larger establishments, in addition to the humanitarian considerations, have found through production cost studies, accident data and other related factors that such hazardous conditions are not only unnecessary but reflect directly in higher production costs and have taken steps to eliminate or control the condition. The small plant executive on the other hand, who must personally attend to sales, procurement of raw materials, production control, hiring of personnel, and the many other details of management, is hard pressed for time to properly evaluate his operational efficiency, or to take a critical look into the safety aspects of his plant. Usually his lack of pertinent records make is impossible for him to determine the serious effect of accident costs on his enterprise.

Necessity for Safeguarding

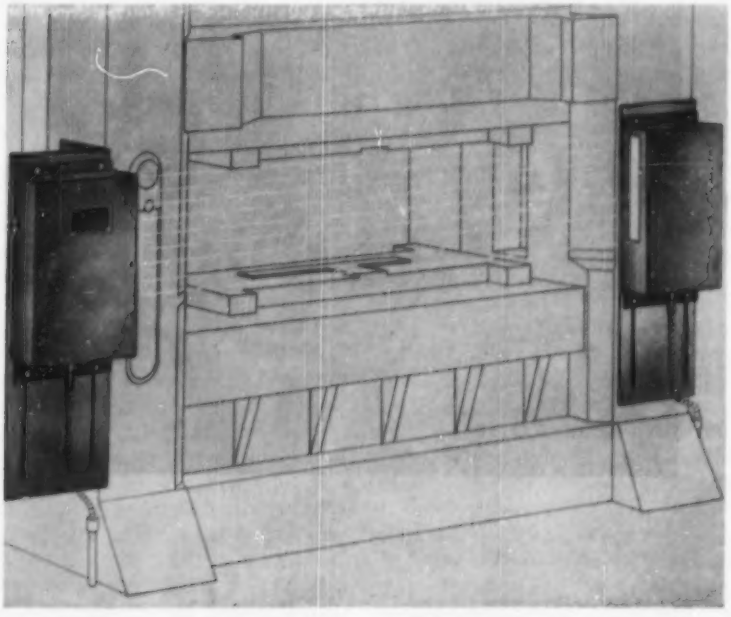
Since these unguarded machines represent a very small percentage of all machines in industry, there is the ever-present temptation to ignore it and hope the condition will resolve itself. This is false rationalization as statistics show. The situation does not correct itself, for given an unguarded machine or condition and given sufficient ex-

Guard Machine

Protection here is afforded by remote control guard. Use of both hands simultaneously is required for tripping device.

posure time and the human factor, the combination will result in an accident and injury. **Injuries sustained from such machines result in some degree of permanent disability in about 55 percent of the cases; rarely does an individual who escapes serious injury from such an accident the first time, ever get a second chance.**

The human suffering and hardship incident to such accidents should be compelling enough reasons to exhaust all possible ways and means to devise an effective safeguard or to control the hazard in some way. Fundamentally man's responsibility to his fellow man has been one of the chief motivating factors in the safety movement. There are those, however, who in addition must be shown the economic considerations involved. The simple premium payments to the insurance carrier, for the eventual payment of medical and compensation costs in the settlement of specific cases are only the obvious expenses. The carrier will not reimburse management for the cost of damage to the machine or equipment, cost of materials spoiled incident to the accident, value of production loss due to machine down time, value of production loss due to inefficiency as a result of lowered employees' morale incident to the accident, expense of training new employees, and many other insidious elements which are not obvious. Past estimates have set the value of these indirect costs at four times the direct cost of medical and compensation payments, which may perhaps be too liberal a figure. The United States Dept. of Commerce estimates from available data that the overall cost of training a new employee may average $1500. Some private organizations consider this figure somewhat too modest.



A photo-electric guard meets safety needs, interrupting work if hand enters guard beam.

The foregoing has indicated the humanitarian and economic reasons for guarding these hard to guard machines. In addition there is the aspect of human failure due to the wear and tear on the senses and organs of the human body, or in general the results of the aging process. We have often heard some employer state with respect to some unguarded machine that it has been unguarded for many years

and the operator has been on the job for many years and nothing has happened in the nature of an accident, therefore he concludes that no accident will occur. This type of reasoning does not account for the physical and mental changes of the human being over the years. We must take an inventory so to speak of the human being. Working at an unguarded machine is dangerous and requires alertness of all the senses and in addition the skill and coordination of all the powers at the individual's disposal. It is important to realize that vision, hearing, the sense of touch, sense of smell, muscular coordination deteriorate with age. Under such conditions it is impossible for the individual to be alert constantly. Eventually all the circumstances will be favorable for an accident, and it will occur. In addition to his aging handicap, we must also consider the psychological distractions caused by the working environment, and the individual's personal problems and home life. All these factors show the futility of relying on human behavior in operating unguarded machines. We must strive to make our machines positively safe, and not rely on man's unpredictable emotional behavior where mechanical contrivances are concerned.

Engineering Aspects

By its very nature, the hard to guard machine requires a comprehensive study of its operation and motion before any determination can be made as to the most suitable safety device or procedure to be used. Accordingly, the first step should consist in a job safety analysis of the machine operations. This will indicate all existent hazards such as point-of-operation exposure; dangerous mechanisms and motions exposed to contact; positions or actions of the worker incidental to the operation, feeding, or maintenance activities; evaluate worker qualification, fitness, skills, etc.; additional tools or equipment needed to perform the job efficiently and minimize exposure to injury; and in addition promote the establishment of standard training and operating procedures for the job. While all these elements are important and must be coordinated with the specific operation, in this instance we are primarily interested in the mechanical aspects—guarding of cutting, shearing, pressure and other potential hazards. Once the mechanical hazards are known, then by an appreciation of the problem factors, and application of the basic methods and principles of machine guarding technique it will be possible to devise suitable alternate methods of guarding the machine. Where the results of the study indicate more than one method of control, we must select that one of such combination of methods that will achieve the greatest efficiency consistent with effective safety.

In any process or operation requiring machine performance, it is necessary and important that a tool or machine designed or effectively adapted for the purpose be used. Due to expediency or lack of equipment for a particular job the arbor of an abrasive wheel or boring machine may be fitted with a circular saw blade and used for sawing operations, or a power brake may be modified to perform the function of a power press, and so on. At best these modifications are inefficient, and in addition present a very serious accident exposure. Where hard to guard machines are the subject of a safety study, we should critically inquire whether the machine is designed or adapted to safely accomplish the task. Along this line of thought, the so-called "rube goldberg" contraptions that are constructed in plants to perform some special operation should be analyzed to insure that the point-of-operation or other mechanism are not really unsuspecting accident traps that may result in severe injury to operating or maintenance personnel.

Self-Contained Safety Units: One of the most effective and practical means of protecting the machine operator is to build safety into the unit, such as the so-called safety dies of power presses. Provision for this type of feature must be planned and adapted to the operation and specific motions. Such safety devices are constructed so that ample provision is made to feed the stock into the point-of-operation but so that the opening will not permit the worker's fingers or hands into the danger zone. Such dies may be designed so that successive operations may be performed at the same time, thereby reducing costs. This method of guarding may have limitations with respect to the nature of the stock worked on and the complexity of the operation.

Enclosure Guards: The enclosure type of guard, so constructed as to enclose the point-of-operation danger zone effectively when properly designed and adapted to the unit, affords a high degree of safety at a minimum of expense. It should be well designed to permit entry of the stock with safety to the operator, afford good visibility to observe the operation, and should be of substantial construction. Provision should be made to permit oiling and entry of tool aids to remove stock or jammed pieces without the necessity of removing the guard.

Mechanical Feeds: Intricate mechanisms have been developed which may be applied as feeding devices for machines. Such methods eliminate the need for the operator to place the hands or fingers in the danger area when feeding stock into the unit. The stock is fed to the unit by means of rolls, gears, dials, chutes, hoppers, magazines, slides, or other similar means which are coordinated and synchronized with the motion of the point-of-operation. While such systems have a high degree of safety potential, they do not per se afford the positive protection desired, for the danger zone is usually still exposed to contact. Mechanical feeds when coupled with an enclosure type guard around the point-of-operation are very effective.

Interruption Type Safety Devices: Guards are available or may be devised which will either prevent the machine from starting or cut off the power and effectively stop the unit if the operator's hands are in the danger area. These devices include gate guards, intercovers, barriers, photo-electric cell arrangements, etc. Such units require a high degree of attention in their design and adaptation to specific operations in order to insure against dangerous deficiencies which may permit the operator to "beat" the guard motion, or reach into and around blind spots of the guard, during the operation cycle.

(Continued on page 32)

The 1 dressing that gives you 3 major floor maintenance benefits!

MYCO POLY-GLO

The New, Heavy Duty Non-Wax Floor Dressing

1

EXCELLENT SLIP RESISTANCE

Underwriters' Laboratories, Inc., approves the slip resistance of POLY-GLO. Readings obtained on the UL James Machine prove that POLY-GLO rates "excellent" on all floor surfaces tested. Safety alone is reason enough for you to use POLY-GLO on all your floors.

2

LABOR-SAVING EASE OF APPLICATION

Poly-Glo applies easily and quickly . . . it dries in minutes to a tough, hard glossy film. Poly-Glo strongly resists heel marking, dirt and water . . . and will *not* yellow or discolor the lightest floors.

3

SPARKLING BEAUTY WITHOUT BUFFING

Self-polishing Poly-Glo gives you sparkling beauty without hours of machine buffing. To keep floors dust-free and polished, sweep daily with yarn broom treated with MYCO Yarn Broom Dressing. Damp mopping with cold water whisks off clinging dirt, will not remove Poly-Glo's protective film or lustre.

USE POLY-GLO *SAFELY* ON ALL TYPES OF SEALED WOOD, RESILIENT and NON-RESILIENT FLOORS!

Masury-Young Co., 76 Roland St.
Dept. 63, Boston 29, Mass.

I'D LIKE A DEMONSTRATION, PLEASE . . . so I can see for myself what Poly-Glo and The MYCO Method of Floor Care can contribute to plant safety and floor maintenance economy. Have one of your representatives in my area phone to arrange a convenient time.

Name .....
(Please print or type)

Title .....

Company .....

Address .....

City ..... Zone ..... State .....

MYCO PRODUCTS SAVE TIME • EFFORT • LABOR

MYCO

MASURY-YOUNG COMPANY

76 Roland Street, Dept. 63, Boston 29, Mass. • In Canada: Toronto, Ontario

BRANCH OFFICES IN PRINCIPAL CITIES

MYCO is a registered trademark of MASURY-YOUNG COMPANY, and identifies the company's complete line of first-quality floor maintenance products manufactured under exacting standards since 1858.

Visit our booth #224-225 at the National Safety Congress and Exposition, October 22-26

(For details, use Key # W-18 on card on page 47)

Remote Control Type Guard: This type of device which may consist of two-handed tripping devices such that if either hand is removed from the actuating buttons, switches, levers, etc., the machine will not operate; or the nature of the arrangement may be such that the starting or stopping devices are located at a distance from the machine so that the operator is required to stand out of reach of the unit during the hazardous phases of the operation, as is the case with dough mixers.

Rejection Type Guard: The features of this type of unit are such that the operator's hands are pushed or pulled in some manner out of the danger area of the unit during the operation cycle. Examples of this guard are the sweep guards used in conjunction with certain power press operations and with drop hammers. This guard does not require any changes in the design of the tool. These devices are limited in the degree of safety provided the worker. The operator may be able to "beat" or reach around into the danger area.

Electric Interlocks As Effective Aids: To insure against the removal of guards and operation of machines without adequate protection we should give serious consideration to interlocking safeguards into the normal operating position by electrical switches so that the machine will not operate unless the guards are in place. Such arrangements are usually interlocked with the power source of the unit. While insufficient attention has been given in the past to this type of auxiliary safety aid, new units are more and more featuring this added protection. This increases the assurance that the maintenance personnel will replace the guard at the conclusion of repairs, or that the operator will operate the machine without the guard for some reason or other.

Jig Type Safety Aids: It is conceivable that there may be machines which due to the nature of the work involving diversified changes in operation, necessity of holding the stock with the hands or fingers close to the tool during the operation, or the smallness of the stock worked on, may render the use of a conventional type guard impractical and unsafe. Instances of this nature are encountered in the woodworking industry, and in assembly operations which use power presses. In such instances, some measure of safety may be achieved by developing jigs or holding fixtures by means of which the stock may be safely fed to the machine. These devices lend themselves to quick changes with the respective operations. However, their dependability is limited because of the reliance on the worker to adjust his safeguard continuously to the work.

From an address presented at the 26th Greater New York Safety Convention.

Maintenance Show

After a four-year interval, the Plant Maintenance & Engineering Show will return to Cleveland, it was announced by Clapp & Poliak, Inc., New York, the exposition management. The eighth in the annual series of shows will be the largest in its history, with the number of exhibitors expected to pass the 400-mark, and the exhibit area the 100,000 square-foot mark; both for the first time.

The show will occupy all the available space in Cleveland's huge Public Auditorium. Almost 95 percent of the exhibit space has been assigned, a total which already exceeds the record set in Chicago in 1955. The show will thus become one of the three largest annual industrial expositions in the country.

Dates for the show are January 28 to 31, inclusive. Concurrently with the exposition, the annual Plant Maintenance & Engineering Conference also will meet. These sessions attract about 2,500 engineers each year.

The show got its start in Cleveland in 1950. In that year, however, it occupied only about one-sixth the space and had only 118 exhibiting companies. In 1957, about 5,000 different items are expected to be exhibited with a range of about 278 different categories.

Industrial executives and engineers may obtain hotel information and advance registration cards by writing Clapp & Poliak, Inc., 341 Madison Av., New York 17, N. Y.

1955's Traffic Toll

The nation's worst automobile accident toll in history was recorded in 1955. Traffic deaths totaled 37,800 last year compared with 35,500 in 1954. The injury count reached 2,158,000 compared with 1,960,000 in the previous year.

These figures are taken from "Fatal Fallacies," the twenty-second in an annual series of traffic accident data booklets published by The Travelers Insurance Companies. Accident facts from every state in the nation are collected and analyzed for the booklet by company statisticians.

Excessive speed was the most dangerous driving mistake again in 1955, killing 12,700. The 1954 total was 12,380 persons. The injury total resulting from excessive speed was 702,560, compared with 659,000 in 1954.

The pedestrian record was the only bright spot in the 1955 accident picture. It reflected improvement for the fifth consecutive year. Pedestrian casualties were reduced to 230,400, compared with 235,060 in 1954.

Drivers under 25 years of age were involved in more than 27 percent of 1955's fatal accidents, although they comprise only about 14 percent of the total of all the nation's drivers.

Weekend crashes accounted for 15,730 killed and 766,090 injured. The 1954 weekend record was 13,980 killed and 678,000 injured.

Crossing between intersections, "jay walking," and stepping into the street from behind parked cars are the chief causes of pedestrian deaths and injuries.

The booklet also reveals that one out of every 75 persons in the United States became a traffic casualty in 1955.

Eighty-five percent of the vehicles involved in accidents were passenger cars.

Twenty-two percent of the deaths occurred on Saturdays.

Four to 8:00 p.m. are the most dangerous hours of the day.

The year 1955 reveals that traffic deaths and injuries are on the increase. There were 57 injuries to each death, compared with only 37 injuries per death in 1941.

the "why," "when" and "cost" of maintenance painting

by **CARL J. EBERT**, Manager
Facilities Branch, Maintenance Div.
Bureau of Yards and Docks
Department of the Navy
Washington, D. C.

In the consideration of any maintenance program, painting is usually an important factor. "Painting" as a term may mean several things. The strictly technical meaning of the word "paint" applies to only a limited number of materials. Most of us, however, use the word in the broad manner. When we speak of "painting" we usually include a wide field of coatings, such as enamels, varnishes, lacquers, sealers, wood preservatives, and even bituminous coatings. In this discussion we will interpret "paint" and "painting" broadly.

There are several factors which govern the "why" of maintenance painting:

Governing Factors

1. To protect and preserve. Usually, this type of painting is necessary to prevent the rotting of wood, the corrosion of metal, and in some cases, to render porous masonry weathertight.

2. To provide a clean and sanitary environment. In our never-ending fight against the spread of disease, particularly in hospitals, kitchens, wash rooms, and other personnel spaces where germs and dirt may collect and endanger human life, it is vital that vulnerable surfaces in such areas be painted in a manner to facilitate sanitary maintenance.

3. To effect good visibility. We can increase the efficiency of artificial light sources tremendously by using white or light-tinted paints. This is particularly true in spaces where outside light is limited. On the other hand, if it is necessary to reduce reflection and glare from the exterior, the use of dark colors having non-gloss surfaces is most effective.

4. For safety and efficiency. In common with industry, the Navy is conscious of the necessity for providing visual warnings of hazards, particularly at its industrial activities. For a number of years a uniform system of painting for safety and efficiency has been followed. By the judicious use of certain vivid or contrasting colors, accidents have been materially reduced, morale improved, and production increased.

5. To improve appearance. Painting for appearance alone is done only in a comparatively few areas. In such cases it can be justified on the grounds of maintaining morale and effecting "good housekeeping" practices.

The timetable for maintenance painting not unlike a timetable for a railroad or an air line, is governed by how far we intend to go. More specifically, we must know how long the building or structure we are maintaining will be used. Buildings are usually designed and built as "permanent," semi-permanent," or "temporary," according to their construction. The Department of Defense classifies these types of construction as follows:

Permanent Building Construction is that which produced a building suitable and appropriate to serve a specific purpose for a maximum period of time (at least 25 years) and with a minimum of maintenance.

Semi-Permanent Building Construction is that which produced a building suitable and appropriate to serve a specific purpose for a limited period of time (less than 25 years and more than 5 years) with a moderate to high degree of maintenance.

Temporary Building Construction is that which produced a building suitable and appropriate to fill a need for a short period of time (5 years or less) without regard to degree of maintenance, and the designs and details of which provided minimum facilities with maximum **initial** economies.

Based on Use Time

However, **after** construction, the standards of maintenance which we use as criteria are based upon the length of time we intend to use the facility. In maintaining facilities to be used for more than ten years, or indefinitely the cycle of painting or repainting is accomplished as follows:

Exterior surfaces Every 4 or 5 years
Interior surfaces Every 3 or 4 years

This cycle is not ironclad. We finally determine the necessity for exterior and interior painting on the merits of each case. Such factors as the degree of deterioration of the painted surfaces, the geographical location of the structure, the climatic conditions encountered, and the functional requirements of the buildings or structures will govern our final decision.

Key to Policy

A **regular** and **consistent** inspection program is the key to an economically sound maintenance painting policy. By means of regular, scheduled inspections based upon uniform standards, we are able to avoid too-frequent painting, and to avoid, also, the need for costly repairs which result from the failure to paint at the proper time.

In simple words, the time to repaint is when the existing paint has reached the end of its useful life. The normal method of wear is by chalking. In the case of exterior paint, slight chalking will begin from 6 to 12 months after application of the paint. It will continue until the paint has disappeared. But we should not wait until this has occurred before repainting. If the paint film thickness is less than 3 mils we should repaint. On metal surfaces this thickness can be measured with a magnetic thickness gage. Practically speaking, however, the need to repaint is usually evident by observation of excessive chalking and where the paint has worn through in spots. In addition to chalking, the inspector can readily observe other failures of the paint film, such as alligatoring, peeling, bleeding, blistering, checking, cracking and scaling, crawling, and fading. Such failures may stem from many causes, and surfaces must be examined carefully in order to determine whether failures result from conditions inherent in the structure, poor surface preparation, improper application techniques, or defective or unsuitable painting materials.

Conditions Variable

Job conditions which affect the methods and progress of maintenance painting are so variable that we find it actually misleading to quote specific figures on costs. In the field of new construction, painting costs may be estimated with more accuracy. In Navy construction, for example, the costs of exterior painting on wood or metal average about 15 cents per square foot. Interior painting in new construction averages about 12 cents a square foot. The condition of existing surfaces, the accessibility of surfaces to be painted, and the type of labor involved (whether contractor's or maintenance forces) all govern maintenance costs. Operational conditions, for instance, frequently impose limitations which materially increase painting costs. In some cases, painting operations are limited to nights and Sundays or other holidays in order to avoid suspension of plant operations. It is sometimes necessary to move scaffolding frequently in order to prevent interruptions to shop operations. The condition of the surfaces to be painted may require sandblasting which will usually add at least 15 cents to the square foot cost of painting. There is no **reliable** standard table of costs for maintenance painting.

Percentage Basis Approach

How may we approach the problem of cost? In considering the overall cost of any maintenance program it is possible to approach the relative cost of maintenance painting on a percentage basis. It is a recognized fact that labor is the largest item of cost. Even though there may be a wide variation between the costs of materials, such variation is minor in the final overall cost picture. In studying the "breakdowns" of manhours expended by the maintenance forces at several activities, we found that about 12.5 percent of the labor expended for overall maintenance of buildings and grounds was devoted to maintenance painting. This percentage will vary but, in general, will usually be not less than 10 percent or more than 15 percent.

The variety of buildings and structures involved in our maintenance painting programs requires that the protection of plant equipment be effected in a number of different ways. The conditions encountered are so variable that the use of a few fixed methods would be impracticable. Removable plastic coatings are used in some cases. Cloth shrouds are used at many locations to protect equipment from damage and spray. Disposable paper drop cloths can also be used for protection.

Observance Required

During painting operations, the observance of uniform fire and safety precautions is required at all Naval activities. The U. S. Navy Safety Precautions are geared to each type of paint or coating used. For example, most bituminous and plastic coatings have combustible properties. In using them, either in confined or open application areas, coatings must be prepared in enclosed mixing equipment in an open or well-ventilated space, spray guns must be grounded, protective apparel must be worn, including chemical cartridge respirators to be worn by personnel working in the immediate vicinity of the mixing or coating operations. Workmen must wear rubber footwear if they stand on metal decking or other metal supports while applying the coatings. The design and operation of paint spray booths must conform to the requirements of the National Board of Fire Underwriters. The Navy Safety Precautions are designed to protect the painter himself. Strict adherence by painters to a system of good personal hygiene in washing with the proper soap or detergent, and in eating, drinking, etc. will practically eliminate the possibility of lead poisoning. Careful observance of health, fire and safety precautions all contribute to a successful maintenance painting policy.

Bases of Decision

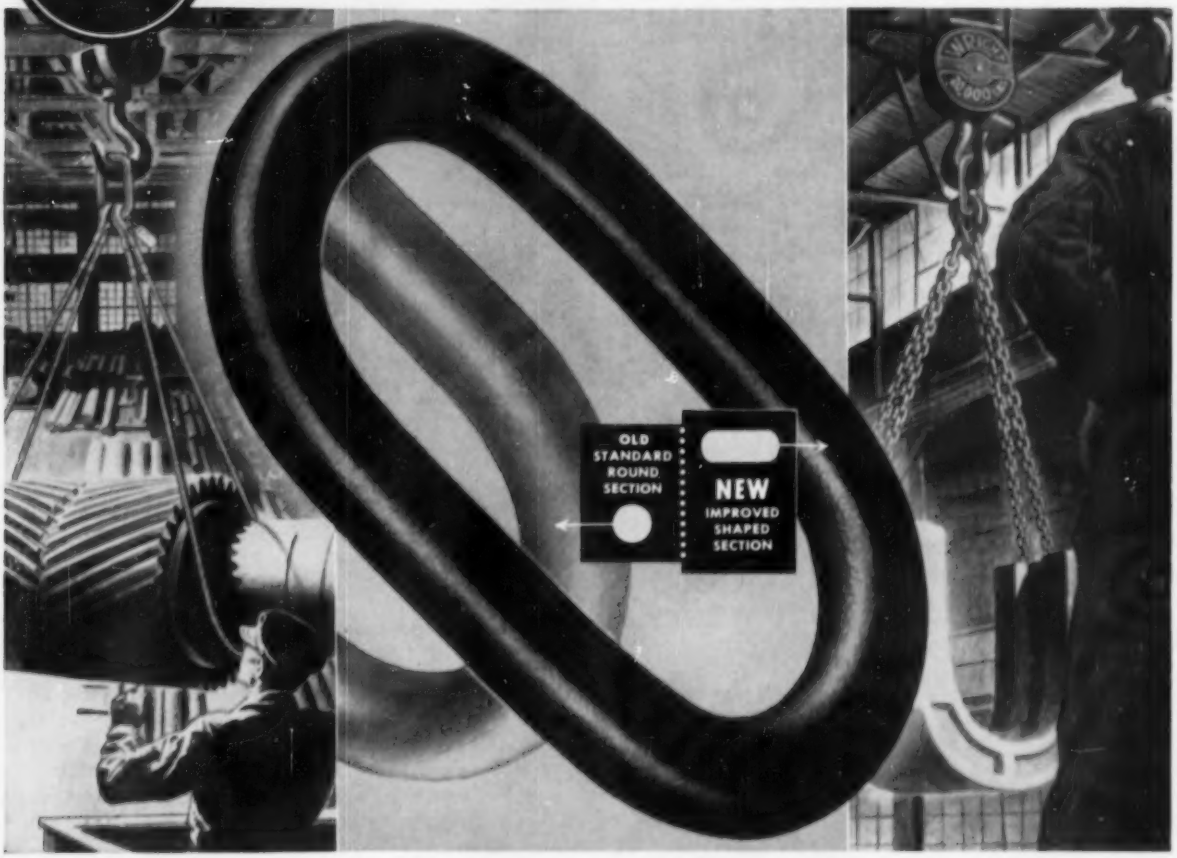
In the final analysis, the decision as to **when** or **whether** to paint is a management decision based upon the economics of the situation and is the responsibility, in the case of industry, of the Plant Manager. This management decision will be based upon **two broad factors:** 1. How much can you **afford?** 2. **What** will you actually gain?

From address presented at the 7th Plant Maintenance & Engineering Show. Picture by courtesy of Cadillac Motor Car Div., General Motors Corp.

ACCO products

ACCO Registered* Slings–Wire Rope & Chain

THE STANDARD OF EFFICIENCY AND SAFETY



An Extra Bonus of Safety for Slings—
THIS NEW SHAPED MASTER LINK

• ACCO's engineers found that if they shaped the master links for chain and wire rope slings as shown above, these new shaped links would hold their form under loads up to 18% greater than could the old standard round links. The reasons are similar to those which enable a shaped I-Beam to handle greater loads than could the same amount of steel if used as a solid beam.

The new link is smoother and provides a greater factor of safety. It is a better link in many ways. It costs us more to make. Yet it is offered at no increase in price.

"Registered*"—for Greater Safety

Development of this new link is just the latest step in ACCO's continuing program to provide the greatest possible measure of safety and reliability in ACCO *Registered* Slings.

Each component of an ACCO *Registered* Sling is made from the best materials procurable for its use. Each part must prove to have strength equal to or greater than the sling body. All hooks for ACCO *Registered* Slings are Magnaflux tested. Then these components are assembled into slings according to carefully engineered designs that have proved themselves in rigorous field tests.

The completed sling is then individually proof-tested to twice the working load limit for which it is rated. Then, and only then, is it awarded the coveted ACCO Registration Certificate and the identifying ring or tag.

See your Distributor

ACCO *Registered* Slings are readily available from a distributor near you. If you don't know him write to our Bridgeport office for his name.

*Trade Mark Registered

ACCO

AMERICAN CHAIN & CABLE

BRIDGEPORT, CONN.

Atlanta, Boston, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Odessa, Tex., Philadelphia, Pittsburgh, Portland, Ore., San Francisco, Wilkes-Barre, Pa., York, Pa.
In Canada: Dominion Chain Co., Ltd., Niagara Falls, Ont.

Better Value

(For details, use Key # W-19 on card on page 47)

SILVER DOLLARS "BUY" SAFETY WHILE SAFETY SAVES DOLLARS

by G. A. NICOLI
Safety Director
Armour Auxiliaries Group,
Armour & Company,
Chicago

Reading racks with special posters and extra copies of safety pamphlet are installed in first-aid room, union hall and other areas around plant.

Over the years, widely popular quiz programs on radio and television, as well as crossword puzzle contests in daily newspapers have demonstrated that the sporting instinct is not only very real and alive but is growing stronger every day. This phase of American life cannot be shrugged away merely as the age-old desire to get something for nothing. On the contrary, many contests require boning up for weeks, months and years to make the contestant a specialist in widely scattered—and often incongruous—fields.

The need for appealing to the average man's sporting instinct and thus creating a voluntary, enthusiastic approach to safety as a long-range goal or "prize" requires constant study in every area.

One of the most difficult and frequently discouraging tasks confronting top management and the safety department of any large operation has been to find new ways of lighting the spark of interest in accident prevention. Not only must that interest be captured but it must be maintained if accidents are to show a consistent drop. We know that mandatory rules serve a definite purpose and are necessary in any plant, but every realist knows that active safety interest never will be aroused by a rule-book alone. In fact, the average set of regulations too often will present a "challenge" to the employee to try to see just how much he can get away with. How to re-route that challenge into constructive safety channels in itself has become a challenge to every safety department.

Combination Effective

On the other hand, an appeal to reason, to every man's innate sense of responsibility and cooperation, plus the introduction of a definite incentive have worked wonders in holding back a flood of accidents.

It is true that mechanical safeguards and educational measures have produced incalculable results in preventing injury. And American industry can take great pride in its achievements in convincing the rank and file that indifference to its own safety, on the job and off, not only brings suffering and tragedy but bores a hole in the pocketbook that the most generous compensation check cannot plug.

One of the least-appreciated but most invaluable tools of safety education is the family unit which is in a fortunate position to emphasize the advantages of accident prevention. The wives and children of any industrial employee can be a tremendous influence in stimulating the normal instinct of self-preservation against accidental injury. However, up to recent times, there was no way of reaching this family unit with a safety message, the impact of which would be sufficiently continuous and contagious to brush off on the worker himself. Industry had to find a way to sugar-coat the safety rule-book, enlist the family's aid to create and maintain active cooperation in safety and help to make the employee truly his brother's keeper.

Through the medium of a continuing campaign designed to build and sustain enthusiatic safety cooperation, we of Armour hit upon the plan of taking the safety mes-

sage directly into the homes of the entire staff. Through an incentive award plan, Armour employees can receive a Silver Dollar Award by maintaining an enthusiastic interest in accident prevention. Thus the silver coin represents not just another dollar of greatly reduced buying power but a Medallion of Honor for "boning up" on safety. The sporting instinct is aroused and kept at fever height, provided the employee stays actively boned up on safety!

Safety Pamphlet

Each month we purchase copies of the safety pamphlet, "Your Safety News" with our Company's name on the masthead. They are then distributed to all Armour employees at this division. At the bottom of the first page there appears every month a different safety slogan each beginning, "As We See It . . .". The Safety Committee distributing the pamphlet has prevailed upon the employee to take "Your Safety News" home for the family to read and to memorize the Safety Slogan of the Month. To help provide the proper incentive to do so, five telephone calls are made during the course of the month to the homes of employees of the Armour division and any member of the family giving the correct safety slogan is awarded a silver dollar.

In this manner, an enthusiastic response is engendered in the entire family and we can be certain that an active safety interest has been created.

Copies of "Your Safety News" are placed in a rack at the large bulletin board in Union Hall, the racks at all time clocks, and are attached to employee time cards as well. At the start of the campaign, all plant bulletin boards were repainted to focus attention on "Your Safety News" and a monthly bulletin is sent to all foremen to keep them abreast of the results of the Silver Dollar Safety Campaign.

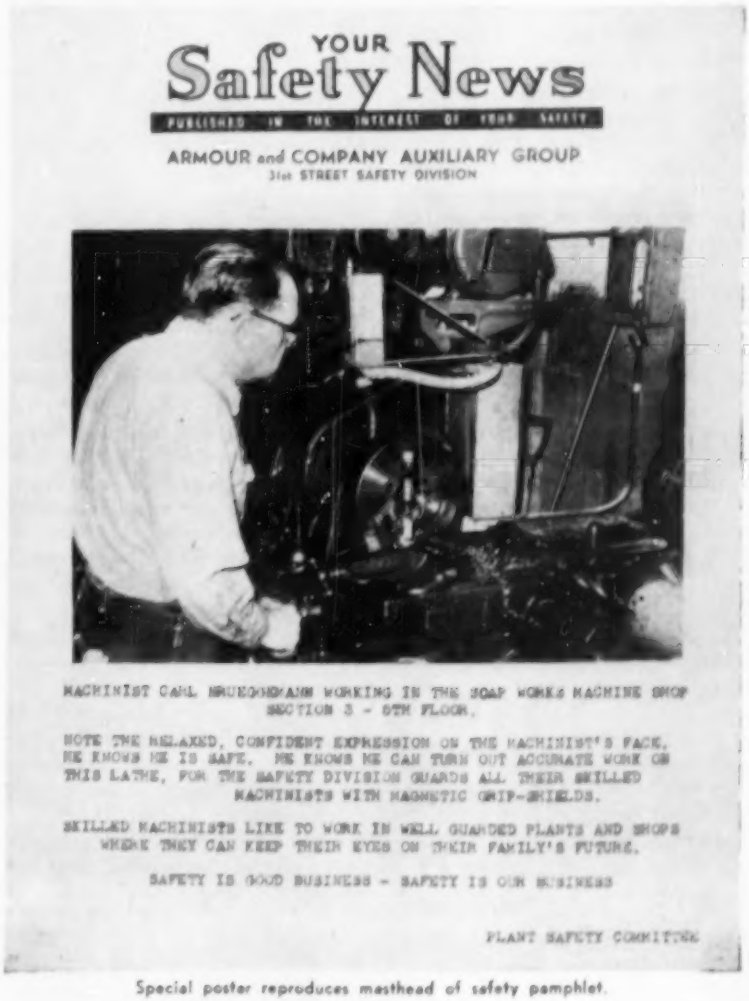
The safety news pamphlet not only makes every employee in each department eligible for the Silver Dollar Award but, by doing so, has paved the way for the most enthusiastic safety cooperation instead of heretofore half-hearted indifference toward accident reduction measures. The beneficial results have already brought a downward trend in accident frequency and severity.

Written to the level of the average worker himself, the safety news pamphlet has become a personal message to every member of the family. It has provided a definite incentive toward accident reduction and has brought about a tremendous lift in employee morale and employer-employee relations which the workers' farsighted union has been quick to recognize.

We now have definite proof that the informally written safety hints, messages and concrete suggestions are being read and, even more important, absorbed by the family unit within the home. The home telephone calls have disclosed a keen interest in and proper appreciation of management's concern for employee safety. In fact, the families of Armour employees are now so imbued with the benefits of safety spotlighted by our campaign that they actually help to sustain the level of safety enthusiasm at high pitch manifested throughout the plant.

The safety pamphlet has served to stimulate interest in safety suggestions, the best of which have earned for the employee an additional monetary reward, proving that the age of incentive is still quite alive.

It is an axiom that safety must start at the top and that the man at the bench needs conclusive proof day by day that management does not leave accident prevention just to printing a set of rules, each beginning: "It is forbidden to . . . ." Moreover, the average Joe cannot be expected to take safety very seriously if he thinks management


YOUR
Safety News
PUBLISHED IN THE INTEREST OF YOUR SAFETY
ARMOUR and COMPANY AUXILIARY GROUP
31st STREET SAFETY DIVISION

MACHINIST CARL BRUECKMANN WORKING IN THE SOAP WORKS MACHINE SHOP SECTION 3 - 6TH FLOOR.

NOTE THE RELAXED, CONFIDENT EXPRESSION ON THE MACHINIST'S FACE. HE KNOWS HE IS SAFE. HE KNOWS HE CAN TURN OUT ACCURATE WORK ON THIS LATHE, FOR THE SAFETY DIVISION GUARDS ALL THEIR SKILLED MACHINISTS WITH MAGNETIC CHIP-SHIELDS.

SKILLED MACHINISTS LIKE TO WORK IN WELL GUARDED PLANTS AND SHOPS WHERE THEY CAN KEEP THEIR EYES ON THEIR FAMILY'S FUTURE.

SAFETY IS GOOD BUSINESS - SAFETY IS OUR BUSINESS

PLANT SAFETY COMMITTEE

Special poster reproduces masthead of safety pamphlet.

depends solely upon a few "Be Careful" signs at the entrance to the plant. He must be convinced that management **really cares** about his safety before his own active interest in safety can be aroused.

Here at Armour, we are particularly fortunate in having management's deep interest in safety from the topmost echelons down through the entire staff. This whole-hearted concern with accident prevention and injury reduction is exemplified by the tireless cooperation of E. W. Engelhardt of the Industrial Relations Department and C. B. Johnson, our General Superintendent.

Every member of our staff now knows the lengths to which management goes to demonstrate the multiple advantages of safety. Moreover, they know that our safety campaign is not just another temporary "drive." Rather, it is recognized as a full time appeal for injury reduction off the job as well as at work.

Already the Silver Dollar Safety Campaign utilizing the vehicle of "Your Safety News" has paid off in reduced accidents and, equally important, it has drawn all employees closer together to work actively toward the goal of perfect safety. This superb enthusiasm for safety on the part of employee, union leaders and top management has built up a dynamic approach to accident prevention based upon the age-old need for incentive at work. Armour employees are no exception in using enthusiasm as the ideal avenue to truly worthwhile objectives.

A.S.A. Standards

A booklet, "How American Standards Are Made," describes the three ways standards become nationally-accepted and approved as American Standards. It tells who makes these American Standards and why, and who uses them. The booklet also explains why the American Standards Association is, and how it operates impartially for the manufacturer, the consumer and the general public.

It's free, by writing Dept. PR, American Standards Association, 70 East 45 Street, New York 17, N. Y.

New York State Safety Program

Top-ranking experts on industrial safety from the labor, insurance, industry and government worlds in New York State met in Albany, September 27–28 for Governor Averell Harriman's Conference on Worker Safety. The Conference, under preparation since appointment by Governor Harriman of a 52-member Industrial Safety Advisory Committee, was designed as a springboard for the extensive new State Labor Department program to reduce industrial injuries.

The several hundred conferees reviewed and discussed the new Labor Department program which has been expanded from its former inspection and violation-correcting routine to a broad, multi-faceted operation including consultation and technical advice to industry.

As a preliminary to launching of the Departmental program, a pilot group of 60 men received an intensive four-week training course at New York University's Center for Safety Education and Cornell University's School of Industrial and Labor Relations. These men, specially selected from the Department's Division of Industrial Safety Service field staff, have been thoroughly briefed in the most modern techniques in the consultant approach to industrial safety.

Supplementing the Division's normal field inspection activities, these specially-trained men will visit factories and stores throughout the State as safety consultants. Complete surveys will be made of plants and other establishments, all hazards to worker safety will be located and identified, and existing safety programs will be analyzed and appraised.

These safety representatives, after conferring with top-management of the particular establishment, will submit a complete, individualized report—specifically tailored to the particular plant—summarizing defects in the existing safety program and practices, noting the commendable conditions, and making recommendations for elimination of potential hazards to worker safety.

Priority in this new program will be given to high-hazard industries and to the small plant where the need for special safety work is greatest.

Citing the "appalling physical and economic toll of industrial accidents—every nine seconds a worker is injured in New York State, costing the community about three-quarters of a billion dollars a year," Governor Harriman, at the first meeting of his Industrial Safety Advisory Committee in Albany declared:

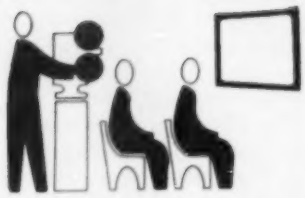
"If for no other reason, the State and all its citizens must be concerned about the human suffering and the hardship to families resulting from a recent average of 821,000 on-the-job accidents each year." If industrial accidents can be reduced by even one-quarter, he added, "the recurring annual gains for the State's economy would be about $185,000,000."

Pointing out that reduction of industrial accidents is the most effective way to cut workmen's compensation costs, the Governor said, "A major goal of this administration is to improve the ability of New York State's industries to compete better with those elsewhere, and to do so without impairing protection to the workers and without detriment to industries and workers of other States."

The Governor's Industrial Safety Advisory Committee, a permanent body set up to maintain a continuing study of methods of eliminating causes of industrial accidents, is composed of leading safety personnel, management executives, insurance men, labor representatives, industrialists and key government officials. Chairman of the Committee is Brigadier General David Sarnoff, chairman of the board of Radio Corporation of America.

Gen. Sarnoff has declared:

"We need to know more about how to make people safe. I believe that we need more research on the human factor in accidents. Not more research by safety engineers only, but more research by other experts in the field with a completely new fresh approach. There are many colleges and research institutions which could put their scientists, biologists, physiologists and other specialists to work on the accident problem. I believe their discoveries would lead to constructive results."



Safety on Film

Insecticide Film

A 13½-minute color cartoon that tells the story of aerosols from the viewpoint of a spray-harassed insect, has won the "Golden Reel" award for best 16mm film of 1955 in the industrial processes category, it was announced recently by Association Films. "The Spray's the Thing," produced for Du Pont by John Sutherland Productions, was one of 22 national winners in the third annual Golden Reel film festival of the Film Council of America.

Prints of the film may be borrowed by clubs, schools, TV stations, industrial plants and other community groups at no charge except postage from Association Films' regional libraries in: Ridgefield, N. J. (Broad at Elm), La Grange, Ill. (561 Hillgrove Avenue), San Francisco, Calif. (351 Turk Street) and Dallas, Texas (1108 Jackson Street).

Film on Reagents

Reagents—those high-purity materials vital to modern research, quality control, technology and clinical science—are the stars of a motion picture. Called "Precision Tools in Bottles," the 10-minute 16-mm sound-color film was produced by Fisher Scientific and directed by Robert Baron. It develops the theme that in design, manufacture, specifications and testing, today's reagent-grade chemicals are precision tools.

Opening with shots of a single-pan high-speed balance weighing reagents for a synthetic broth of polio vaccine . . . an automatic spectrophotometer checking the purity of industrial solvents . . . an electronic titration of moisture in a university laboratory . . . the picture quickly makes the point that "in no instance is the method more sensitive than the tool-that-comes-in-a-bottle: the reagent."

Inside an actual reagent plant, the camera shows how production of these reagent "tools" involves batches that would seem tiny to makers of tank-car loads of commercial-grade chemicals. But these well-nigh "custom" quantities are needed to permit close control every step of the way.

Also explained in the film are the various chemical grades (the difference between "lot analyzed" and "maximum specification" in reagents; the meaning of the term "highest purity" in organics; why the grade "C.P." or "chemically pure" is becoming obsolete—now that the American Chemical Society has set up valid specifications for reagents).

The movie may be borrowed, without charge, from Fisher Scientific—it will be sent postpaid. It is recommended for showings to laboratory, classroom and professional groups. For information, write Fisher Scientific Co., 409 Fisher Building, Pittsburgh 19, Penna.

Concrete Quality Control

An informational colored motion picture that shows how uniform quality concrete is being produced through improved control of water, air and rate of hardening has been announced by The Master Builders Company, manufacturers of technical treatments for concrete and mortar.

The film covers problems in meeting concrete requirements caused by variables in materials and conditions. Demonstrating the need for controlling these variables to obtain hour by hour uniformity of good concrete, it shows how certain materials are being employed to accomplish this result by giving improved control of water, air and rate of hardening.

Entitled "The Man With The Trowel," the film is 30 minutes long and is available for private showing to groups of any size. Requests should be addressed to The Master Builders Co., Division of American Marietta Co., Cleveland 3, Ohio.

Machine Tool Films

Of 123 motion picture films on machine tools and machining operations listed in a new 24-page booklet just published by the National Machine Tool Builders' Association, 79 are in color. Ranging in showing time from 10 to 40 minutes (average time is 30 minutes), all films are available without charge upon request to the member companies producing them.

Most of the films have been prepared for sales or training purposes and are consequently concerned with specific machining operations. A few, however, are devoted to telling the story of the part played by machine tools in satisfying man's never-ending search for a higher standard of living.

With few exceptions, all films are 16 mm., with sound. Many are in such demand that it is suggested requests for their use be made three to four weeks in advance of an intended showing—and a choice offered of two or three dates.

Copies of the new booklet listing the films are available from the National Machine Tool Builders' Association, 2071 East 102nd St., Cleveland 6, O. Requests for an individual film, however, should in all cases be directed to the member company concerned.

A second "Special Citation for Contributions to Highway Safety" in 1955 has been awarded the Post Office Department by the National Safety Council, Postmaster General Arthur E. Summerfield reported.

Mr. Summerfield said he had accepted the award "on behalf of thousands of postal people who have led and stimulated local safety programs for postal vehicles over the nation."

"The Post Office Department a few years ago had one of the worst traffic accident records in the entire Federal Government," Mr. Summerfield recalled, in commenting on the award. "In 1953, the Department initiated its first intensive safety program, which included safe driving instructions, as well as driver examination and physical reaction tests.

"As part of this program, the Department's first Safety and Health Division in the Bureau of Personnel was activated and staffed with experts in industrial safety, health, motor vehicle and traffic safety."

Typical of the Post Office Department's safety accomplishments in 1955, accidents involving postal vehicles were reduced from 13 to 4 per 100,000 miles driven in metropolitan areas.

Mr. Summerfield noted: "The Department's two consecutive awards were won on basically these points:

"1. The part postal people all over the country have played in stimulating further local community safety programs.

"2. Post Office Department cooperation in participating in national and local safety programs.

"3. The work postal personnel have done in establishing better working relations with local traffic authorities to integrate transportation and delivery patterns with the one-way street and no-parking plans of various communities."

• • •

Four agencies at The Engineer Center and Fort Belvoir, Va., have received the Corps of Engineers top safety award, a Certificate of Merit for safety from Lieutenant General Samuel D. Sturgis, Jr., Chief of Engineers.

Ordnance Section was cited for establishing one of the Army's outstanding safety records in an essentially hazardous activity, compiling 1,210,021 accident-free man hours in 1955. This was Ordnance Section's fourth consecutive similar safety award. The hour totals are accrued from non-administrative work only, such as Ordnance work with demolitions, shop repair, explosives and ammunition, and NIKE materials.

Fort Belvoir's 521st Military Police Company received the Certificate of Merit for a record of over 400,000 accident-free military vehicle miles and a total of 84,898 accident-free military man-days (24 hour) from March 1, 1955, to 29 February, 1956. Military Police vehicles travel this reservation constantly under all weather and road conditions. This accident-free mileage total is considered outstanding by safety authorities here, and indicative of intense safety efforts by all members of the 521st.

The United States Army Hospital here received its certificate for its non-military complement contribution to safety programs. From May 21, 1953, to December 31, 1955, civilian personnel of the hospital have compiled a total of 987,135 accident-free man hours.

The Electrical Engineering Department of the Engineer Research and Development Laboratories received its certificate for establishing an accident-free year under relatively hazardous conditions, and also for sponsoring the Laboratories' most outstanding safety performance.

• • •

Chain Belt Company has been awarded the Legion of Safety plaque of the Employers' Group Insurance Company for outstanding interest in safety. Presentation of the award is based on employee awareness of accident prevention, plant and working conditions, and product quality. In addition to Milwaukee Chain Belt plants, the safety program review included company plants, warehouses and branches throughout the country.

• • •

Drivers of motor vehicles at the Gadsden Air Force Depot, Gadsden, Ala., have chalked up a total of over 672,000 miles during a two-year period without an accident.

The Gadsden Depot has also operated over 2,362,000 manhours, over a year's time, without a disabling injury.

• • •

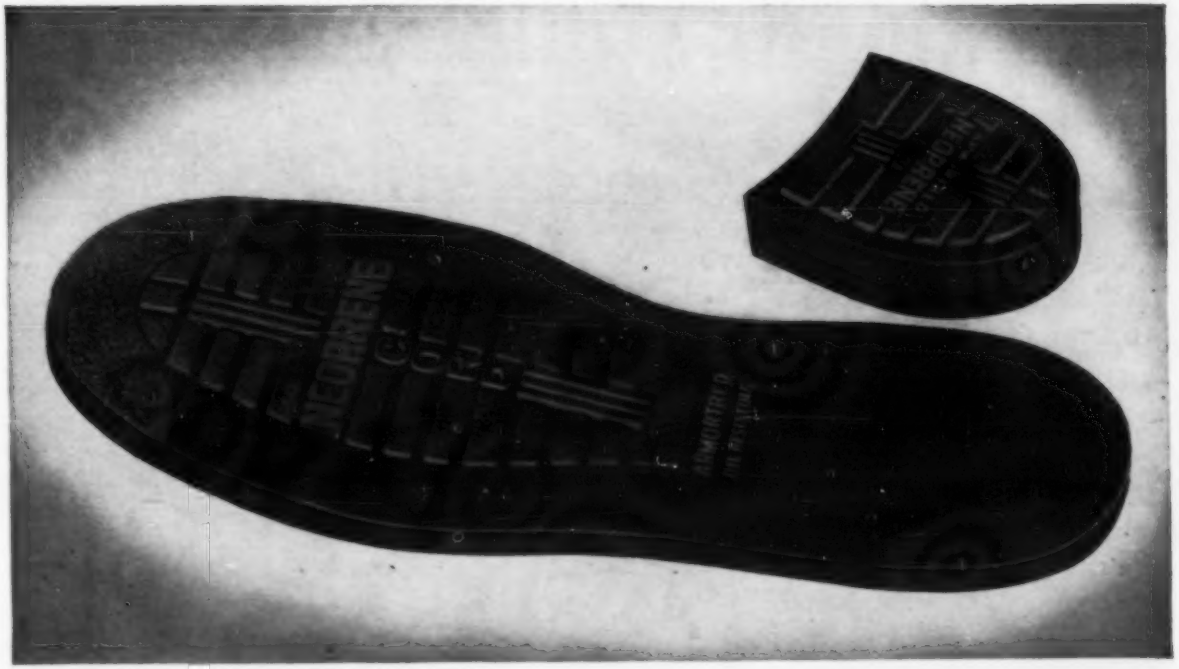
Georgia-Pacific Corporation was named as winner of the new annual Carlton L. Smith Memorial Safety Award for an outstanding record of plant safety in their Toledo, Oregon plywood division during the last year, for plants that work from 100 to 500 thousand man hours annually.

The award is one of three established in memory of the late Carlton L. Smith, who was a strong advocate of safety training in plywood mills. Member mills of the Douglas Fir Plywood Association compete annually for the awards.

Armortred NEOPRENE Cord Soles and Heels

NEW SAFETY and WORK SHOE SOLE BY QUABAUG

By Invitation Member
Emblem of BUSINESS CHARACTER
Rice Leaders of the World Association
Represents High Standing in NAME - PRODUCT - POLICY



DUPONT NEOPRENE TIRE CORD

Combined for Protection against
OILS—HEAT—ACIDS
LONG RUGGED WEAR
and a SAFE SURESTEP
SMART for STYLE
14 & 18 IRON BLACK or BROWN
with or without Red Label

ANOTHER FINE PRODUCT BY QUABAUG—CRAFTSMEN IN SAFETY, WORK and DRESS SHOE SOLES

There is no short cut to quality

MANUFACTURED AND DISTRIBUTED BY **QUABAUG RUBBER COMPANY** NORTH BROOKFIELD, MASSACHUSETTS

(For details, use Key # W-21 on card on page 47)

At the request of a great many of our readers,

SAFETY MAINTENANCE has prepared a limited quantity of

REPRINTS

of the complete series on

NOISE CONTROL

that ran in our June, July, and August issues.

These three articles by Laymon N. Miller, **Does Noise Affect You and Your Work?, Noise Levels, Actual and Desired,** and **Noise Control in Industry,** represent a complete, authoritative, experience-grounded **survey** of the many factors involved in a problem that is of increasingly great concern throughout American industry. Comprehensive and detailed, they are at the same time concrete, clearcut, easy-to-follow, and profusely illustrated.

SM&P subscribers may now have the **complete** text of all three articles—plus every accompanying photo, table, and chart—in attractive 24-page pamphlet form. While the limited supply lasts, they're available to you at the following nominal prices:

1–24 copies—50¢ each
25–49 copies—40¢ each
50–99 copies—30¢ each
100 copies and over—25¢ each
—all prices plus postage—

We suggest that you see the order coupon below promptly, since pre-publication demand has already accounted for a large portion of the available supply of these reprints.

TO: SAFETY MAINTENANCE AND PRODUCTION
75 Fulton Street, New York 38, N. Y.

Please send me ..... copies of the 24-page pamphlets containing the complete text of all three of your recent articles on Noise Control. (Checks, please, with all orders for $2.00 or under.)

Name .....

Company .....

Address .....

City ..... Zone ..... State .....

The Pennsylvania Manufacturer's Association has presented a safety award to Pittsburgh Coke and Chemical Company in recognition of the operation of the coke plant for more than one million man-hours without a disabling injury. Pittsburgh Coke was previously awarded the Lammot du Pont Safety Award as the chemical firm which showed the greatest improvement in plant safety over a five-year period.

• • •

A. M. Byers Company's South Side Pittsburgh plant was recently awarded a certificate of merit for safety by the Pennsylvania Manufacturers' Association in recognition of 299,552 man hours worked without lost time injury. The plant is one of three to receive the award in Pennsylvania thus far in 1956. A total of 9,200 plants in the state are eligible for the certificate which is given to plants compiling a record of more than 200,000 man hours worked without lost time injury. The Byers plant received the award for its safety record between December 10 1955, and March 14, 1956.

• • •

A new low of six lost-time accidents in a whole year's operation was set as Sheaffer Pen Company's employees in fiscal 1955 achieved the best safety record in the company's history.

C. W. Sloan, the company's safety director, said the previous year had seen 20 lost-time accidents that cost a total of 980 hours. In contrast, last year's total time lost was 332 hours—and one accident accounted for 252 of these hours.

The accident-frequency rate (based on number of lost-time accidents per million man-hours worked) also dropped very markedly, Sloan noted, to 2.0 from the previous year's 6.3. The national average for the pen company's class of industry is 13.6. Sheaffer's averages three million man-hours a year.

• • •

For 12 consecutive years, and an accumulated three and three-fourths million man-hours, the employees of the Latrobe, Pennsylvania, explosives plant of American Cyanamid Company, have worked with a perfect safety record.

In ceremonies marking the occasion, President Kenneth C. Towe said: "For the first time, one of our plants has operated for more than twelve consecutive years without a lost-time accident; and, in so doing, is the first plant to earn for the second time our company's highest safety symbol—'The President's Award'."

The plant, with approximately 175 men and women employed, manufactures electric blasting caps for coal and other types of mining, quarrying and the construction industry.

• • •

National Safety Council's highest honor and five other NSC awards have been granted to various divisions and subsidiaries of Dravo Corporation. The Council's Award of Honor was granted the Machinery Division for the safe performance of its construction activities. It reported a 1955 average of 5.88 disabling injuries per million man-hours against the national three-year average of 16.72 for all construction industries.

The Award of Merit, NSC's second highest honor, went to the Corporation for its 1955 safety performance. Its average injury frequency rate was 6.24 against the construction industry average. This award was also granted to Engineering Works Division in shipbuilding work. The division operated more than a million man-hours in 1955 without a disabling injury. As of March 31 this year the figure was 1,810,724.

Certificates of Commendation were awarded Dravo's Realty Division, the Fullerton-Portsmouth Bridge Company and Charleroi Supply Company.

• • •

An award for safety on the job has been presented to Keystone Camera Company, Boston, Mass., for operating more than a quarter of a million man hours without a time-loss accident.

The award is Liberty Mutual Insurance Company's "Certificate of Merit" presented to industries that score exceptional safety records. Keystone, despite the fact that it has more than 1,000 employees working with many kinds of complicated machinery required in camera manufacturing, registered 257,417 man hours without an accident of any consequence.

Employee safety always has been a primary concern of Keystone management. In addition to having the best safety devices possible on all its equipment, the camera company promotes safety in its printed and oral communications to its employees on a continuous basis.

• • •

P. Ballantine & Sons has won the top award in the 1955 "Accident Prevention Contest" conducted by the Brewers Board of Trade, Inc. The Newark, N. J., brewery's low rate of 4.93 accidents per one million man hours of work was more than 100 percent better than that of the second place winner. It compared with an average of 17.75 accidents per million man hours of work among 10 major brewers in the metropolitan area whose 13 separate brewing plants were in the competition.

A bronze plaque has been awarded to the Ballantine brewery for this accomplishment in plant safety.

• • •

For the fifth time in six years, the Davison Chemical Company Division of W. R. Grace & Co. has won on a national basis the award of honor of the National Safety Council. To win the award, Davison in 1955 scored a 51 percent reduction in frequency of accidents and a 77 percent reduction in severity of accidents from "par" rates, derived from the company's own past experience and that of the industries in which Davison operates.

Various units of the company have individually won other awards from the National Safety Council and the Manufacturing Chemists Association for their 1955 performance.

EDMONT CASE NO. 356: To a leading appliance maker, Edmont recommended a light-weight, plastic-impregnated glove (No. 151 Werx) for handling molded plastic parts. It protected against the sharp edges . . . prevented finger printing the polished surfaces . . . and outwore canvas gloves previously used 4 to 1.

Edmont job-fitted glove replaces canvas and goatskin

No. 151 WERX

Made of special vinyl-impregnated cotton fabric, Edmont Werx gloves average 4 times longer wear than canvas. On many jobs they also outwear expensive goatskin gloves and have no offensive odor or thick and thin spots. Exceptional dexterity and non-slip grip make them ideal for inspecting small parts, material handling, shipping and receiving operations. They are moisture repellent and wash without shrinking. Available in two styles and sizes for both men and women.

EDMONT CASE NO. 583: For handling and inspecting rubber automotive parts, manufacturer had been supplying women employees $12 a dozen goatskin gloves that wore 20 shifts. Edmont recommended No. 101 Werx gloves which averaged 25 shifts wear and cut glove costs 66%. And, because they're odorless, women preferred Werx.

FREE TEST OFFER TO LISTED FIRMS: We make over 50 types of *job-fitted* gloves in various styles and coatings. Tell us your operation, materials handled and temperature condition. We will recommend the Edmont glove and coating that best fit your job and supply samples for comparison testing on-the-job.

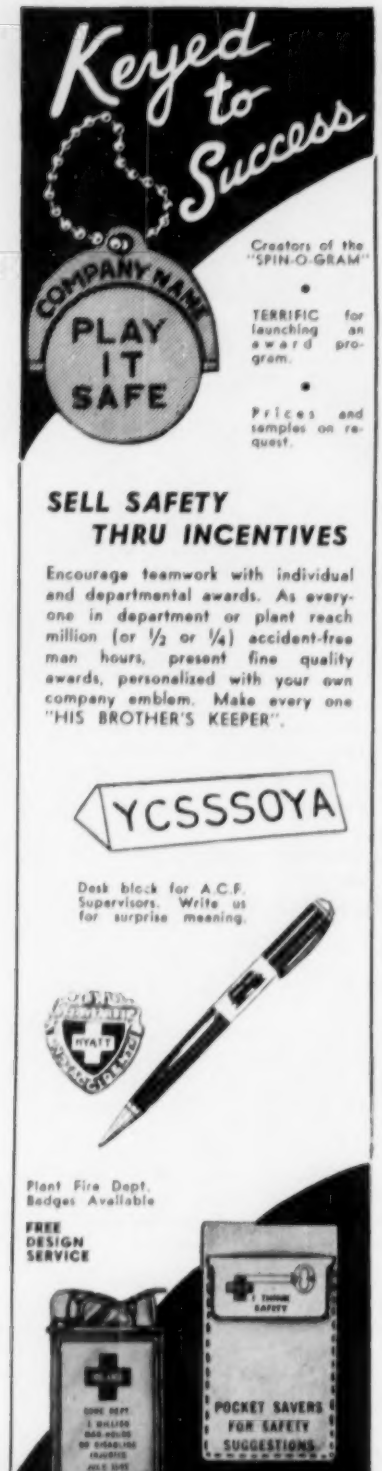
Edmont Manufacturing Co., 1256 Walnut Street, Coshocton, Ohio

Leading industrial distributors supply Edmont gloves. In Canada write Mine Safety Appliances, Toronto

Edmont

Edmont JOB-FITTED GLOVES

(For details, use Key # W-22 on card on page 47)


Keyed to Success
COMPANY NAME
PLAY IT SAFE
Creators of the "SPIN-O-GRAM"
TERRIFIC for launching an award program.
Prices and samples on request.
SELL SAFETY THRU INCENTIVES
Encourage teamwork with individual and departmental awards. As everyone in department or plant reach million (or ½ or ¼) accident-free man hours, present fine quality awards, personalized with your own company emblem. Make every one "HIS BROTHER'S KEEPER".
YCSSSOYA
Desk block for A.C.P. Supervisors. Write us for surprise meaning.
Plant Fire Dept. Badges Available
FREE DESIGN SERVICE
POCKET SAVERS FOR SAFETY SUGGESTIONS
SEND FOR FREE ILLUSTRATED CASE HISTORIES
Award Incentives, Inc.
200 William St., N. Y. 38, N. Y.
Chicago • Los Angeles • San Francisco
(Use Key # W-23 on Inquiry Card on page 47)

Employees of the Chemstrand Corporation's nylon operations at Pensacola, Fla., achieved the goal of completing 8,371,266 safe man-hours of work. This represents 365 consecutive days of around-the-clock operation without a single lost time injury, according to Fred G. Gronemeyer, plant manager.

"Our employees again have shown what a smooth functioning team can accomplish in the field of safety," Gronemeyer said. "Safety is our first consideration and this outstanding achievement has been made possible by the close harmony and teamwork exercised by each of our employees in the daily operation of our facilities. This is but another step toward our common ultimate goal, a 'no-injury plant'," Gronemeyer stated.

Previous to this new high mark of safety performance, Chemstrand employees established the best industrial safety record in the history of the state of Florida when they completed 5,000,000 safe man-hours of work on April 4, 1956.

In 1955, Chemstrand employees established an accident frequency rate of .65 accidents per 1,000,000 man-hours of work. This mark was six times better than the average for the chemical industry and eight times better than the average for the textile industry. The 1956 accident frequency rate is .00 as compared to the 5.51 average for the textile industry.

The next immediate goal of the Pensacola nylon employees is the world's record for safety in the textile industry. The present record of 13,624,000 safe man-hours was established by the Forstmann Woolen Company, Passaic, New Jersey.

• • •

Employees of C. Schmidt & Sons, Inc., Philadelphia brewers, received top awards from National, State and Regional safety organizations for a record-smashing safety performance during 1955.

Two Awards of Honor from the Council were presented, one for consistent reduction of the Schmidt accident rate culminating in an accident-free year in 1955—100% better than par for the entire industry, which was 9.30.

The second plaque was for a record of 3,148,643 continuous man-hours, worked without a lost-time injury, from July 1, 1954 to March 2, 1956.

United States Brewers' Foundation first-place plaque for companies with 500 to 1,000 employees, given in recognition of Schmidt's 1955 no-accident record, was the second of its kind won by the firm in three years.

The Philadelphia Safety Council honor award for the Delaware Valley brewing concerns was also given for the best safety record in 1955, and the highest safety award presented by the Pennsylvania Manufacturers' Association to a member Company recognized the more than 3,000,000 man-hours production without a lost-time mishap.

• • •

For eight years and an accumulated 601,708 man-hours, the employees of the Hamilton, Ohio, plant of American Cyanamid Company have worked with a perfect safety record. Awarded the company's "President's Award," the plant, with approximately 40 employees, produces aluminum sulfate and sulfuric acid.

In achieving their eight years of accident-free operation, Hamilton employees have received awards from the National Safety Council, state and local safety citations, Manufacturing Chemists' Association Certificates of Achievement, and the Company Award of Merit and Cyanamid Safety Award.

• • •

The Dow Chemical Company's Magnesium Foundry in Bay City, Mich., chalked up its two millionth consecutive man-hour of work without a lost-time injury. Over the past five years the foundry's safety record has been more than ten times better than that of the non-ferrous foundry industry as a whole. The foundry's two million man-hour mark dates back to July 29, 1953, when the last lost-time injury occurred. Prior to that date, the foundry had worked 1,455,532 man-hours without a lost time injury.

SEND THIS PERSONAL SAFETY MESSAGE

TO EVERY ONE OF YOUR EMPLOYEES!

Safety is made attractive...vivid...colorful...

each worker clearly sees how safety benefits him.

You get enthusiastic safety cooperation instead of

tolerance...from every employee...every month.

YOUR
Safety News
THE JOHN DOE COMPANY, INC.
PROTECT YOURSELF
3
WAYS
There are three safe practice ways that do the most good in keeping free of accidents, all based on your personal desire to know safety and keep yourself safety-minded by studying the hazards of your work. They are
1 Make sure all guards are in place and working and wear the personal protective equipment your job requires.
2 Learn the safe way to do a job and do it just that way.
3 Report, avoid or eliminate all unsafe conditions.
As we see it: Safety is part of every job and like any craft it requires skill.
John Doe

Size 9½" wide x 8½" deep

...talks the worker's language!

Full of color, pictures, humor and snap, it makes safety interesting and down-to-earth. 12 times a year it covers every accident hazard. Nation-wide, leading industrial firms state it's the *only safety paper their employees will read* . . . and take home to their families.

It gives you the advantages of personal contact, saving time and money. When it prevents one Lost Time accident, it has more than paid its cost for the year. Try it . . . it works!

Your Imprint Here!

makes YOUR SAFETY NEWS your own publication . . . a good-will ambassador . . . another force for better industrial relations.

Every employee feels bucked-up by a note from the boss. If you desire, your facsimile signature can be printed here.

Your Signature Here

NOTE:
Your Safety News is designed to promote better employer-employee relations. Every item is carefully weighed from this viewpoint.

INSIDE PAGES
(pages 2 and 3)

To Save the World
Lions & Machinery have Hungry Jaws
NEVER REACH INTO MACHINERY WHILE IT IS RUNNING!
Guard Well
WANTED
from the CARELESS ACTS of others the WISE MAN corrects his own
SAFETY SHOES
WORK OVERTIME
Dress for Safety
SAFETY SHOES
FALLS
FALLS KILL 60 EVERY DAY

IN YOUR EMPLOYEE'S INTEREST

Your employee's self interest in his own safety is always emphasized. Even household hazards are covered to keep him safety-conscious every minute, not only in the plant, but at home and on the way to work.

CHOCK-FULL OF ILLUSTRATIONS

Artwork is carefully chosen to lodge home each point. The cartoon style makes YOUR SAFETY NEWS as familiar and as welcome as the Sunday supplement.

THE "FOLKSY" APPROACH

Keeping the contents folksy, adding the grace note of humor, delivers your safety message with a nudge instead of a bludgeon. Your monthly shot gets enthusiasm instead of tolerance.

VIVID COLOR

Generous use of color gives sparkle, adds to the attention-riveting qualities of YOUR SAFETY NEWS. Each issue is as lively as any news-stand favorite.

HOW TO ORDER

YOUR SAFETY NEWS may be ordered with either the Standard imprint or with your Own Special Imprint. The Standard Imprint reads PLEASE COOPERATE FOR THE SAFETY AND HEALTH OF ALL . . . signed . . . A SAFE WORKER.

You can personalize YOUR SAFETY NEWS with the name of your firm and the name or facsimile signature of a company representative as illustrated. Give full instructions for your Special Imprint on the order blank below.

Item (1) FIRM NAME. Please show the name of your firm exactly as it is to appear.

Item (2) INDIVIDUAL NAME OR SIGNATURE, if desired. On a sheet of white paper, please show, in black ink, the individual name or signature, if desired, which is to appear each month on the first page of YOUR SAFETY NEWS.

NOTE: Although a personal signature is effective, some firms substitute: SAFETY DEPARTMENT, YOUR SAFETY COMMITTEE, A SAFE WORKER, etc.

Clip Out & MAIL TODAY!

ALFRED M. BEST COMPANY, Inc. • 75 Fulton Street, New York 38, N. Y.

Gentlemen:

Until further advised, please publish for us each month_____ copies of YOUR SAFETY NEWS at _____¢ each.

☐ Special Imprint ☐ Standard Imprint

Item (1) — Our Special Imprint should appear as follows:

_____

Item (2) — (If desired) — Please imprint the name or signature shown on the attached sheet of white paper, or the following:

INVOICE TO:

Name_____

Firm Name_____

Address_____

City_____ Zone____ State_____

( ) **PRICES**

Per Month	Your Special Imprint	Standard Imprint	Per Month	Your Special Imprint	Standard Imprint
6,001 copies and over	2½¢ each	2¢ each	200 to 500 copies	5½¢ each	4½¢ each
3,001 to 6,000 copies	3¢ each	2½¢ each	100 to 199 copies	6½¢ each	5¢ each
1,001 to 3,000 copies	3½¢ each	3¢ each	25 to 99 copies	*	5½¢ each
501 to 1,000 copies	4½¢ each	4¢ each			

* 6½¢ each plus $3.50 per month. For Special Imprint. F.O.B. New York, N. Y.

FREE BULLETINS & CATALOGS

As a convenience to executives, these new publications of manufacturers are offered by the Reader Service Department of SAFETY MAINTENANCE & PRODUCTION. To obtain copies write in the key numbers on the free-postage card below.

HYGIENE

Throat Lozenges **653**
Hynson, Westcott & Dunning Inc. Colored bulletin explains a line of medicated lozenges useful for treating throat irritations due to weather conditions, colds, excessive smoking, hay fever, etc. Briefly outlined are reports of several laboratory and clinical studies made emphasizing the effectiveness of the lozenges when used as a convalescent agent in post-tonsillectomy and pharyngitis patients.

Eye Care **654**
Silicone Paper Co. of America, Inc. 13-page booklet containing information about the human eye, intended to aid in the preservation of good vision. The illustrated booklet explains the workings of the eye, its common defects, eye care, first aid measures for eye accidents, etc.

Antiseptic Hand Soaps **655**
Armour & Co., Industrial Soap Dept. A line of hand soaps is described in this colorful brochure. Containing hexachlorophene, the soaps are said to destroy up to 98 percent of the skin bacteria that spread contact dermatitis and cause secondary infections.

LADDERS & SCAFFOLDS

Mobile Ladder Truck **656**
Safe-Lad Mfg. Co. A mobile ladder truck for overhead maintenance is featured in this illustrated bulletin. Also included are specifications for the ladder truck and information regarding a protective guard rail for the work platform.

Scaffolding & Equipment **657**
Bil-Jax, Inc. 24-page catalog, fully illustrated, offers a complete line of scaffolding and equipment in detail. Information includes specifications and recommendations, assembly methods, test data, work combinations, and a method of choosing the equipment necessary for any specific job.

Aluminum Ladders **658**
Patent Scaffolding Co. Extension ladders, single ladders, step ladders, and stools for light and heavy duty use are illustrated and described in this bulletin. The ladders, designed for construction or maintenance uses, are rust, rot, mildew and corrosion-resistant.

PERSONAL PROTECTION

Safety Eyewear **659**
Bausch & Lomb Optical Co. A complete line of safety eyewear and lenses designed for every occupational requirement is fully illustrated and described in this 40-page catalog. Manufacturing data, prescription service and an ordering guide are a few of the special features of the catalog.

Neoprene Clothing **660**
A. J. Tower Co. Featured in this illustrated brochure is a brand of neoprene clothing for protection against greases, oils, acids and similar chemicals. The clothing available includes coats, hats, jackets, overalls, aprons, etc. A size chart to assist in ordering the clothing is provided.

Women's Safety Caps **661**
Chic Maid Hat Mfg. Co., Inc. Illustrated bulletin features a women's safety cap designed to guard hair from entanglement in moving machinery. The comfortable cap has a large, glare-shielding visor and an adjustable snood. Available in a fire-resistant model.

Coated Work Gloves **662**
Edmont Mfg. Co. Four types of coated work gloves, including neoprene, plastic and rubber, are detailed in this 16-page illustrated catalog. Of special interest is a performance and chemical resistance preference chart for the various glove models available.

Safety Headgear **663**
Wilson Products Div., Ray-O-Vac Co. Detailed brochure illustrates a line of safety hats, caps and attachments, (lamp brackets, welding helmets, faceshields, etc.). The hats are available with a choice of shock-absorbent headbands.

FIRE PROTECTION

Static Electricity Compound **664**
Statikil Co. Informative brochure describes the effectiveness of a liquid-form static electricity eliminator. The product, available in pressurized containers as well as bulk form without pressure, has a wide range of application, and its continued use is said to reduce the frequency of static evidence.

Drum Safety Valve **665**
Control Safety Equipment Co. A drum safety valve for controlling pressure changes in metal drums is featured in this illustrated bulletin. The valve, in addition to eliminating the danger of explosions, is said to reduce fuel evaporation loss by as much as 50 percent in warm climate areas.

LIGHTING

Emergency Lighting **666**
Dual-Lite Co. Colorful bulletin features a line of emergency lighting systems consisting of battery-powered, independent lighting installations. The equipment carries the approval of the Underwriters' Laboratories, Inc.

(Continued on the next page)

SPECIAL OFFER BELOW VALID ONLY FOR THREE MONTHS AFTER PUBLICATION DATE

READER'S INQUIRY CARD

HOW TO GET FREE DATA! **(No Postage Required)**

ADVERTISED PRODUCTS: Just insert the key number shown under each advertisement in the boxes below.

NEW PRODUCTS ("WHAT'S NEW" PAGES): Insert the key numbers shown on each item.

FREE BULLETINS & CATALOGS: Insert the key numbers shown on this page.

KEEPING UP WITH RECENT DEVELOPMENTS: Insert the key numbers shown on items in special feature article.

PLEASE PRINT YOUR NAME & ADDRESS

Name _____ Title _____

Company Name _____

Street Address _____

City _____ Zone _____ State _____

October, 1956 **Please send me the following free data**

MAIL POSTAGE PAID CARD FOR MORE DATA

Free Bulletins (Cont'd)

Fluorescent Lamp Guard 667
Gots-A-Lite Co. Slip-on steel wire guards to prevent fluorescent lamps from falling from their sockets are detailed in this illustrated bulletin. The guards are simple to install and permit safe, easy replacement of lamps.

MAINTENANCE

Sweeping & Mopping Manual .. 668
Huntington Laboratories. A 20-page booklet intended as a maintenance man's manual for sweeping and mopping operations. Fully illustrated, it explains what type of brush and mop to use, how to handle it efficiently, how to sweep corridors and stairs with a minimum of effort, etc.

Heat-Resistant Brick Flooring ... 669
Walter Maguire Co., Inc. A heavy-duty, high-heat resistant flooring brick is fully described in this illustrated bulletin. A four-step method for laying the brick flooring is also explained.

Floor Absorbent Uses 670
Speedi-Dri Corp. Attractive brochure offers 75 varied industrial uses for a brand of floor absorbent. Among its unusual applications, the absorbent can serve as packing for bottled liquids in shipping containers. It helps prevent breakage, and should breakage occur, absorbs the overflow.

Building Maintenance Guide ... 671
Advance Floor Machine Co. A work planning guide that provides a methodical, orderly system for scheduling day to day work of the maintenance crew. The guide also offers suggestions for floor maintenance and equipment care.

Anti-Slip Coating 672
The Flintkote Co. Illustrated bulletin features an anti-slip coating to reduce slippery floor hazards. A synthetic resinous plastic, the coating is resistant to fire, oils, alcohol and water, and is easily applied by trowel or spray.

What's YOUR Problem?

- **Has an accident or fire interrupted production?**
- **Want to know how to prevent it?**
- **Do you need background information on equipment for industrial safety, hygiene, or maintenance?**

As a service to its readers, "Safety Maintenance" will arrange to supply manufacturers literature on the following subjects. Just insert the key number on the Readers Inquiry Card on the preceding page and be sure to fill in your name and address. If you need information on a specific type of product, simply write it in on the Inquiry Card.

Key Number	Subject
	PERSONAL PROTECTION
101	Safety Goggles
102	Face Shields
103	Lens Cleaning & Anti-Fogging Equipment
104	Sweat Band
105	Hard Hats
106	Respirators & Masks
107	Protective Clothing
108	Women's Protective Clothing
109	Safety Belts
109A	Vehicle Safety Belts
110	Safety Gloves
111	Foot Protection
112	Anti-Slip Soles
113	Oil-Proof Soles
114	Welding Helmets
115	Welding Curtains
	FIRST AID AND PERSONAL HYGIENE
120	Protective Skin Cream
121	Skin Cleansers
122	Sanitary Drinking Facilities
123	Athlete's Foot Control
124	Salt Tablets
125	Noise Analysis & Control
126	Antiseptic Medication
127	Burn Medication
128	First Aid Kits & Supplies
129	Stretchers & Litters
130	Resuscitators
131	Eye Wash Fountains
	DUST & FUME CONTROL
136	Dust & Fume Collectors
137	Carbon Monoxide Control
	FIRE PROTECTION
141	Safety Cans
142	Extinguishing Ash Tray
143	Safer Solvents
144	Degreasing Machines
146	Fire Blankets
148	Watchmen's Control Systems
149	Fire Resistant Hydraulic Fluids
	LIGHTING EQUIPMENT
150	Alarms & Warning Lights
151	Explosion-Proof Lights
152	Electrical Insulation Tester
153	Fluorescent Lamp Guards
154	Emergency Lights
	MAINTENANCE
160	Anti-Slip Floor & Mats
161	Anti-Slip Waxes & Finishes
162	Floor Cleaning Compounds
163	Cleaning Machines
164	Oil & Grease Absorbents
165	Paints
166	Floor Resurfacing Materials
167	Concrete Finishing & Cutting Machines
168	Dust Removing Vacuums
169	Ice Removers
	LADDERS & HANDLING
170	Ladders & Safety Devices
171	Scaffolds
172	Work Platforms
173	Slings
	GUARDS
174	Acid Pumps
175	Machine Guards
176	Power Press Feeders
	EDUCATIONAL AIDS
180	Safety Signs
181	Aisle Marking Equipment
182	Safety Awards & Emblems
183	Employee Safety Guide
184	Safety Tools
185	Work Tables
186	Bulletin Boards

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD
FIRST CLASS PERMIT NO. 4434, SEC. 34.9 P. L. & R., NEW YORK, N. Y.

"SAFETY MAINTENANCE & PRODUCTION"
ALFRED M. BEST COMPANY, INC.
75 FULTON STREET
NEW YORK 38, N. Y.

Service Dept.

READER'S FREE INQUIRY CARD

for further data

on

ADVERTISED PRODUCTS,

NEW PRODUCTS,

FREE BULLETINS & CATALOGS

WHAT'S YOUR PROBLEM?

FAILURE TO PROVE ACCIDENTAL INJURY—Back Injury

A coal loader was improperly awarded compensation for an alleged back injury sustained while loading a conveyor onto his truck where he failed to prove that he suffered an accidental injury. The commission found that the claimant's employment as a coal loader presented a hazard of back distress greater than that found generally in employment. In reversing this finding, the court ruled that the record did not disclose the size nor the weight of the conveyor. No proof was offered as to the number of times in a given day claimant was required to load or unload the conveyor. There was no proof that an unusual or excessive strain was imposed on claimant's physique, or that he exerted himself in a manner unusual to or greater than was ordinarily the case in the general field of common labor. Remanded.

SIMPSON VS. MATTHES, Michigan Supreme Court, October 3, 1955.

CORONARY INFARCTION—Sufficiency of Evidence

Claimant was properly awarded compensation for suffering a coronary infarction where the evidence was sufficient to support the finding that there was a causal connection between the lifting of a heavy piece of furniture and the heart attack. The employer contended that the claimant's heart condition pre-existed the accident and that there was no substantial evidence to show association between the lifting and the progress of the heart condition. The medical testimony was conflicting on this point. The court ruled that there was medical opinion associating the acute heart attack with the lifting, and the proof of external events observed immediately after the lifting gave support to the finding that this event was an "accident." Affirmed.

GREENFIELD VS. ANTIQUE MARKET, LTD., New York Supreme Court, Appellate Division, Third Judicial Department. No. 93–15. May 10, 1956.

CORONARY THROMBOSIS—Causal Connection Between Employment and Death

The dependent wife of a building store manager was properly awarded death benefits for the death of her husband due to a coronary thrombosis where the evidence was sufficient to support a finding that there was a causal connection between the decedent's employment and the fatal heart attack. The evidence disclosed that on the day that decedent suffered the coronary thrombosis, he had carried over six-hundred pounds of floor tile and loaded it into a customers truck and had also filled several other heavy orders. The court ruled that the causal connection between the strain and exertion of the employment and the ultimate death of the decedent was sufficiently shown. Affirmed.

MANUFACTURING CASUALTY CO. VS. BADGETT, Georgia Court of Appeals. No. 36,080. March 1, 1956.

Keep your floors FREE of SLIPPERY OIL SPOTS

with

Oil-Dri® ABSORBENTS

the modern, economical oil and grease absorbents that keep your floors dry, clean and safe, and reduce maintenance costs.

WRITE TODAY FOR FREE 60-SECOND DEMONSTRATION

Now Available!

Handy OIL-DRI DISPENSER

Located on spot where needed. Slot-type release automatically delivers absorbents to floor of dispenser. Easy to dispense (with shovel) — no waste — saves time — saves money!

AVAILABLE AT YOUR WHOLESALER

Oil-Dri CORPORATION OF AMERICA

520 North Michigan Avenue
Chicago 11, Illinois

(Use Key # W-24 on Inquiry Card on page 47)

AVOID INJURY
Use
A TAMCO
SleeFF TM
SAFER • SURER • SMARTER
Bruised or broken fingers mean lost man hours and costly work stoppage. ELIMINATE THESE INJURIES by using a TAMCO safety SLEEFF Hand Guard on all hand tool operations.
Durable lightweight plastic. Available in octagon sizes: ½", ⅝", ¾", ⅞" and 1".
Assure positive protection from hammer blows . . . TODAY! See your local supply house or write direct for Leaflet SL-56.
Visit Booth 318, National Safety Show
Dealer Inquiries Welcomed
TAMCO
QUALITY ECONOMY SERVICE
TAMCO, INC.
PITTSBURGH 34, PENNSYLVANIA

(For details, use Key # W-25 on card on page 47)

KEEP YOUR
SAFETY PROGRAM ALIVE
WITH
PLAQUES, TROPHIES and
EMBLEMS!

GC-11 STOCK PLAQUE

Two-tone Jewelers' bronze etching with Green Cross in enameled colors. Genuine Walnut Shields size 10" x 10½" $10.95. Also available plain or with AWARD OF HONOR. Hand engraving only 6¢ per letter.

1933 SERIES

YOU NAME THE TITLE— WE HAVE IT IN STOCK!!

Choose from over 40 titles. 1¼" diameter gold plate heavy pin and safety catch

$10.50 per doz. P.E.T.

Write for FREE 36-PAGE CATALOG!

Clarence J. Williams

WILLIAMS JEWELRY AND MFG. CO.

SILVERSMITHS BLDG. Dept. S-10. 10 S. WABASH AVE.

CHICAGO 3, ILL. Phone: CEntral 6-5018

(For details, use Key # W-26 on card on page 47)

DEATH BENEFITS—Heart Attack

The surviving wife of a deceased retired city fireman was properly denied death benefits for her husband's death caused by a heart attack where she failed to prove that the fatal heart attack was the result of a previous heart attack suffered in the course of his former employment. The evidence disclosed that the decedent had suffered a coronary occlusion of some severity 3 years earlier while doing some extra duty consisting of the preparation of fresh hose. The hospital record showed that the decedent had been suffering from angina pectoris for 7 or 8 years prior to the heart attack. The court ruled that the evidence did not require a finding that decedent suffered an accidental injury. The doctor's record disclosed no history of the occurrence, no claim petition was filed during the decedent's lifetime and the death occurred 3 years after the claimed incident without presence of exertion. Affirmed.

ROOT VS. CITY OF DULUTH, Minnesota Supreme Court. No. 54. May 4, 1956.

VIOLATION OF SAFETY RULE—Death Benefits

The dependent wife of a deceased iron worker was improperly awarded increased compensation for the death of her husband by electrocution where the evidence did not support the finding that the decedent's death was caused by the employer's violation of a safety rule. The decedent met his death by electrocution when a crane allegedly came into contact with a high-power line. Company rules provided that there should be 11.89 feet clearance of all power lines. The court ruled that the circumstances of this case clearly present the probability that the accident occurred through the negligence of the crane operator. A full extension of the boom vertically would reach above the overhead wires. It could be so extended only by the manipulation of the crane. The court further ruled that

it was well established that an employer may not be subjected to a penalty where the injury was the result of negligent or inadvertent acts of its employees. Reversed with instructions to set aside order for increased compensation.

WISCONSIN BRIDGE & IRON CO. VS. INDUSTRIAL COMMISSION, Wisconsin Supreme Court. No. 260. June 5, 1956.

National Safety Congress

Safety, like almost everything else, has become big and complex. Back in 1912, when the first National Safety Congress got underway, there was only a handful of safety men present compared to the 12,000 who will attend the 44th National Safety Congress, in Chicago during the week of Oct. 22nd.

The 1956 Congress will feature more than 800 program participants speaking at 200 sessions on all types of accident prevention—industrial, traffic, home, farm and school. In the industrial field alone, 27 complete programs will be sponsored by the industrial sections of the National Safety Council.

Modern technology has introduced all sorts of hazards that were unknown 40 years ago. Speakers at this year's Congress will tell of the hazards of isocyanates in polyurethane foam plastic production, the safe servicing of airborne radar, the problem of radioisotope radiation protection, and the safety problems of "hot rods" and "drag strips."

This year's convention will hear leaders from all fields—industrial leaders such as Ben Moreell, chairman of the board of Jones & Laughlin Steel Corp., labor leaders such as George Meany, president of the AFL-CIO, and government leaders such as Raymond Blattenberger, public printer of the United States.

The tremendous growth of the safety movement will be visually evident at the Congress exposition where more than 200 exhibits will display equipment and materials designed to make the worker's life safer and healthier.

NEW DEVELOPMENT IN LEATHER PROVIDES

NEW GLOVE ECONOMY with Wearhide GLOVES

UP TO 3 TIMES THE WEAR of ordinary glove leathers in WEARHIDE's new *Horse Butt* Split leather . . by actual independent laboratory tests. COMPLETELY WASHABLE FOR RE-USE. You can wash them or dry clean them for cost-cutting re-use.

PLUS EXCEPTIONAL FLEXIBILITY for complete freedom of movement. Even after washing they're supple and comfortable.

Comes in Bandtop—Knit Wrist—Gauntlet

competitively priced for lowest initial cost

SCIENTIFIC INDUSTRIAL SUPPLY CO.

17 EAST 23rd STREET CHICAGO 16, ILLINOIS

Phone DAnube 6-4355

SAFETY EQUIPMENT

Aprons Cloth
Asbestos Aprons
Asbestos Curtains
Dust Respirators
Lee-Sonic Ear Valves
Finger Guards
Fire Extinguishers
Goggles
Helmets
Neoprene Aprons
Raincoats
Rubber Aprons
Rubber Boots (Plain or Steel Toe)
Rubber Shoes (Plain or Steel Toe)
Sweat Bands
Waterproof Clothing
Welding Equipment

JANITOR SUPPLIES

Brooms
Brushes
Chamois
Cleaning Compounds
Deodorant Blocks
Deodorant Powders
Deodorant Liquids
Disinfectants
Floor Seals
Floor Waxes
Insecticides
Oil Absorbents
Polishes
Rubber Mats
Sponges
Soaps
Sweeping Compounds
Toilet Paper

SEE US IN BOOTH 213, NATIONAL SAFETY CONGRESS

(For details, use Key # W-27 on card on page 47)

AIR OPERATED LITTELL units

- SAVE MONEY
- SAVE FINGERS
- SAVE HANDS
- SAVE TIME

. . . WITH dependable air operated safety units by Littell

Pres-Vac SAFETY FEEDERS . . .

safely feed blanks to press from the safe distance of 14 inches —BY AIR!

Save those fingers.

$35.00

AIR BLAST VALVES . . .

eject parts safely with each stroke of the press—BY AIR!

Save those hands.

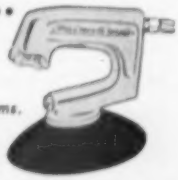
$29.00

NEWEST LITTELL UNIT

SHEET LIFTERS . .

handle sheets of steel glass, plywood, boxes, cabinets, etc. Safely—

Save those Insurance Premiums.



$32.00

F. J. LITTELL MACHINE CO.

AIR DIVISION

Write for FREE Catalog

4187 RAVENSWOOD AVENUE

CHICAGO 13, ILLINOIS

District Offices: DETROIT and CLEVELAND

(For details, use Key # W-28 on card on page 47)

B R E C K

B R E C K H A N D C L E A N E R

Breck Hand Cleaner is an efficient, heavy-duty cleaner which is non irritating and contains no abrasive materials. Breck Hand Cleaner cleans without lathering, and because of its mild yet thorough cleaning action aids in the prevention of skin irritation. About a teaspoonful of Breck Hand Cleaner is applied, without water, to the hands and arms and rubbed in well, followed by thorough rinsing. The excellent penetrating action of Breck Hand Cleaner loosens dirt, grime, and other soils and permits their easy removal in the rinse. Breck Hand Cleaner is formulated to rinse equally well in both hard and soft water. Breck Hand Cleaner has been found especially useful in helping to remove oil, grease, dirt, dust, grime, paint and other soils from the skin.

A Breck Industrial Preparations Booklet will be forwarded to you upon request.

JOHN H BRECK INC • MANUFACTURING CHEMISTS • SPRINGFIELD 5 MASSACHUSETTS
NEW YORK • CHICAGO • SAN FRANCISCO • OTTAWA CANADA

(For details, use Key # W-28 on card on page 47)

industrial hygiene

Edited in cooperation with
OCCUPATIONAL HEALTH INSTITUTE
Educational affiliate of
INDUSTRIAL MEDICAL ASSOCIATION

Cleaner Air Symposium

"Cleaner Air for Urban Areas" is the topic of a public symposium that will be held at The Franklin Institute, Philadelphia, on October 15, 1956. Authorities on air pollution representing the physical sciences, medicine, engineering, industry and government will address the one-day symposium. The discussion will be semi-technical, designed primarily to clarify the present approaches to the problem and outline steps that have yet to be taken to ensure cleaner air for our cities.

The symposium, coordinated with Philadelphia's "Cleaner Air Week" (Oct. 21-27), will also feature exhibits of equipment used in air pollution research and control, and a tour of the Institute's air pollution research laboratory.

Fee for symposium registration will be $15, payable to The Franklin Institute. All mail should be addressed to Cleaner Air Symposium, The Franklin Institute, 20th and Parkway, Philadelphia 3, Penna.

Preventing Diseases and Health Hazards

Progress in preventing health hazards and diseases ranging from highway accidents to the common cold will be reviewed by more than 4,000 public health specialists at the 84th annual meeting of the American Public Health Association and meetings of 40 related organizations in the Atlantic City Convention Hall, November 12-16.

Highlights of 81 sessions, according to Dr. Reginald M. Atwater, executive secretary of the association, will include reports on: progress of Public Health Service and Navy research teams in immunization against upper respiratory viruses; public health problems in use of tranquilizing drugs; health hazards involved in development of peacetime uses of nuclear energy; new food processing and preservation methods, including use of antibiotics, radiation and radioactive products; latest developments in fluoridation of water supplies to prevent tooth decay; experiences in recent outbreaks of milkborne paratyphoid B, encephalitis and streptococcal diseases, and controlled field trials of vaccines to prevent encephalitis, typhoid, pertussis and poliomyelitis.

Other areas to be covered by more than 400 scientific papers, supplemented by scientific and technical exhibits, include: public health approaches to mental illness and retardation, prevention of home, farm, and industrial accidents, and recent developments in various aspects of research, community health organization, health education, medical and dental care, health insurance and rehabilitation.

An opening day symposium will focus on the question: "How Are We Doing in Public Health?" Subsequent sessions will analyze the effectiveness of current international, national, state and local health programs.

Among those expected to attend are Federal and United Nations health officials and staff members, state and local health officers, administrators of voluntary health programs, and other physicians, dentists, nurses, laboratory scientists, engineers, statisticians, veterinarians, nutritionists, health educators and rehabilitation workers.

Eye Irritation Study

When eye irritation is most severe during a smog attack, which pollutants are thickest in the atmosphere? Is it always the same pollutants in all parts of the smog area? Or is eye irritation most intense in some sections when certain contaminants are heaviest, but most severe in other sections when different pollutants predominate?

HILD

FOR EXTRA SAFETY

THERMAL SAFETY SWITCH Protects Motor!
New NON-CLOG FILTER Saves Labor!

EXPLOSION PROOF

MODEL 355

Every detail in Hild's new line of explosion proof equipment is designed and built to the very highest safety requirements. These machines offer you the greatest operating safety, convenience, and economy.

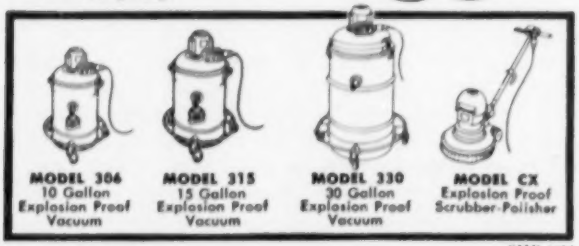
NEW THERMAL SAFETY SWITCH! Important safety feature offered for the first time on any explosion proof vacuum . . . gives you complete protection against circuit overload and motor burnout.

NEW TYPE FILTER! Entirely new filter eliminates 95% of filter maintenance. Shakes clean in seconds . . . but should not clog at all if used correctly.

NEW 30 AND 55 GALLON MODELS! The addition of 30 and 55 gallon vacuums gives Hild the most complete line of portable explosion proof vacuums in the industry. These new models are designed for large volume or bulk cleaning . . . they eliminate constant emptying necessary with small tanks.

NEW DRAIN VALVE! Hilds new 30 and 55 gallon explosion proof drums have a handy dump valve for rapid draining of liquid material . . . no lifting necessary.

NEW TRANSFERABLE HEAD! Vacuum unit with adapter ring can be used on Hild's 10, 15, 30, and 55 gallon listed drums. You can use the right size and number of drums for every cleaning job . . . fill as many 55 gallon drums as the job requires. Excellent for transfering liquid or storing waste for pickup.



MODEL 306 10 Gallon Explosion Proof Vacuum

MODEL 315 15 Gallon Explosion Proof Vacuum

MODEL 330 30 Gallon Explosion Proof Vacuum

MODEL CX Explosion Proof Scrubber-Polisher

SMP-1006

740 W. Washington Blvd. • Chicago 6, Ill.

HILD FLOOR MACHINE CO. INC.

gentlemen: send me more information on

- ☐ Explosion Proof Vacuums
- ☐ Explosion Proof Scrubber Polishers
- ☐ All Hild Equipment

Name _____

Address _____

City _____ State _____

Signed by _____

(For details, use Key # W-29 on card on page 47)

These are questions the independent Air Pollution Foundation hopes to be able to answer following a special study during the smoggy fall months this year. Answers may provide otherwise unobtainable clues to speedier elimination of those pollutants which figure in the eye irritation aspect of smog.

Twenty-six panels of volunteers—groups working daily in plants and offices in the vicinities of 16 air sampling stations operating throughout the Los Angeles Basin—are assisting the Foundation in the study.

Many Aid in Fight

Their aid was obtained through the cooperation of managements interested in donating a small portion of their employees' on-the-job time as a civic contribution in the battle against smog. Various industrial plants, banks, insurance firms and other business offices, as well as several state agencies, are cooperating.

Instruments are used for continuous measuring of concentrations of oxidant, nitrogen dioxide, sulfur dioxide and other known contaminants in the atmosphere at the sampling stations.

But human beings are the only "instruments" capable of measuring eye irritation. Hence the panels of eight to thirty members each at locations close to each of the measuring stations.

In addition, special panels have been set up to report on eye irritation on Sundays, when auto traffic is heavy but many industrial facilities not operating. For these groups, members have been recruited among regular church workers at churches near heavily trafficked highways in the vicinities of the sampling stations.

Retained as Consultant

Reports are filled out on forms designed by James W. Frick, University of Southern California psychologist, who has been retained by the Foundation as a research consultant to carry out the study.

Each panel member reports the greatest amount of eye irritation suffered during the day ("none," "some," "moderate," "severe" or "worst") and the time of day when it was experienced.

Because different persons have different thresholds of sensitivity to smog, Frick's first job is to compare the reports by all members of a given panel and determine the "average reported eye irritation" for that group of volunteers for each day.

The average eye irritation experienced by each panel will then be compared with actual measurements of the various pollutants in that section of the Basin for the same day.

Although the study is aimed primarily at obtaining new information on pollutants which play a role in eye irritation, panel members also are reporting on nose and throat irritation in adjoining columns on the report sheets. Any correlation found between eye irritation on the one hand and nose and throat irritation on the other, may point the way to additional studies and new conclusions about smog.

first aid procedures for industrial nurses

FIRST AID SERIES
other articles Sept. and Nov.

by **DR. J. F. McCAHAN** *

Both legal and ethical requirements make the term "standing orders" undesirable as a proper title for the written medical directives under which many of the duties of the industrial nurse are performed.

There is considerable difference between the meaning of "standing orders" in hospital nursing and industrial nursing. In hospitals, standing orders are written (and signed) by a physician for a particular patient **after** the physician has seen the patient, made a diagnosis and prescribed the treatment and nursing care to be given during his absence.

To the graduate nurse, therefore, the term has a specific meaning not directly applicable to industrial nursing. The nurse in industry functions under a set of procedures prescribed by the physician-in-charge governing her activities in the handling of emergency and routine situations with ill or injured individuals **before** they are seen by a physician.

Therefore, to eliminate the confusion of meaning, "standing orders" in industrial nursing will be replaced by some more suitable term, such as "standard procedure" or "medical directives." It is probable that the near future will see the development and general acceptance of a satisfactory title. However, regardless of the title, it cannot be over-emphasized that "standard procedures" should be prepared only by the physician-in-charge of the medical service, in consultation with the nurse; they must be in writing, and signed by the physician.

Ready Access Important

Standard procedures, after they have been established, should be readily accessible in the medical department, along with the telephone numbers and addresses of the physician-in-charge and other emergency numbers, such as hospitals and ambulance services.

To facilitate adoption of standard procedures, the following basic suggestions are offered as a guide for the physician in the preparation of directives for a specific situation. Other subjects or modifications can be made as desired.

In addition to the skills and experience associated with nursing, the industrial nurse will often find con-

siderable need for training in emergency first aid. The basic training offered by the American Red Cross or the U. S. Bureau of Mines is excellent. It is recommended that industrial nurses qualify as first aid instructors so that they may conduct or assist in training classes for the workers in their industry.

The following general principles should apply in all emergency situations:

a. Call a physician immediately.
b. Stop bleeding.
c. Restore breathing.
d. Prevent shock and infection.
e. Do no more than is actually needed.

The supervising physician should assure himself that these instructions are thoroughly understood and should institute special training when necessary.

Hemorrhage. Excessive bleeding calls for immediate attention. The nurse should notify the physician and, until he arrives, proceed as follows:

a. Expose the wound.
b. Remove loose, surface foreign matter.
c. Apply pressure.

Directing pressure firmly applied over sterile gauze at the bleeding site usually will effectively control moderate hemorrhage. Indirect compression is in-

* Dr. McCahan is the Medical Director of the Loss Prevention Department of a leading insurance company.

The Accident did NOT happen
thanks to

A.W. ALGRIP

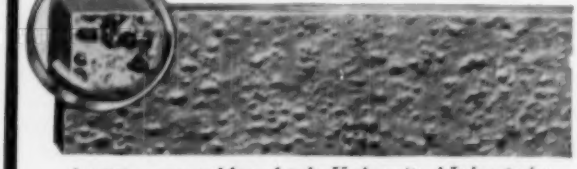
World's only abrasive rolled steel floor plate

Under the most treacherous slipping hazards—water, oil, grease, ink mist—ALGRIP's thousands of tiny abrasive friction particles provide super-safe footing.

This remarkable morale-building flooring—made by a patented process—is tough rolled steel floor plate into which a grinding-wheel type abrasive has been rolled to a uniform controlled depth as an integral part of the steel. Wear and tear merely expose more abrasive. Fabrication is easy and maintenance practically nil.

Make a test installation as an overlay or complete flooring in your worst slipping area. Watch accident and insurance rates go tumbling down as ALGRIP pays for itself in safety. Write today for detailed booklet.

A.W. ALGRIP
ABRASIVE ROLLED STEEL FLOOR PLATE



ALGRIP—approved for safety by Underwriters' Laboratories

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.
Please send A.W. ALGRIP Booklet AL-33

Name _____
Title _____
Company _____
Address _____
City _____ Zone _____ State _____

Other Products: A.W. SUPER-DIAMOND Rolled Steel Floor Plate—Plates—Sheets—Strip—(Alloy and Special Grades)

(For details, use Key # W-30 on card on page 47)

dicated in excessive bleeding not controllable by direct methods. Digital compression over the vessel against underlying structures either adjacent to the wound or at the nearest pressure point will usually suffice until the physician arrives. Indirect pressure should be applied proximal or distal to the wound, in keeping with the arterial or venous character of the bleeding.

Hemostats or clamps should be applied only if the emergency warrants it and when the foregoing procedures prove ineffective. Avoid applying a tourniquet, if possible. If severe bleeding in an extremity suggests the use of a tourniquet, apply a blood pressure cuff.

The nurse should remember that:

a. A direct pressure bandage should not act as a tourniquet.

b. A tourniquet must be periodically released every 15 minutes.

c. No dressing should be applied over a tourniquet.

d. Sterile precautions must be observed at all times.

Asphyxia. Cessation of breathing from any cause demands:

a. Artificial respiration at once and at the site of the accident.

b. Notification of the physician.

c. Maintenance of body warmth. Avoid excessive heating.

All industrial nurses should possess the ability to apply artificial respiration and should realize the need for its continuous application until breathing is restored or until careful repeated medical examination advises otherwise.

Shock. Early and adequate shock treatment is life saving. Do not delay. Common symptoms of shock following injury are pallor, perspiration and rapid, thready pulse. Emergency management by the nurse should include:

a. Notification of the physician.

b. Removal of cause. If shock is due to hemorrhage, control it. If it is due to trauma not associated with bleeding, all active treatment of injury should be deferred until shock management has been instituted. Wounds should be covered with sterile dressings to prevent infection.

c. Relief of pain: Narcotics or barbiturates as ordered by the physician by telephone or written order.

d. Keeping the patient warm, dry, and on his back with his head low.

Nursing Management of Injuries

Successful management of injuries depends upon prompt treatment, meticulous cleansing and dressing, examination of deep as well as of superficial structures. To accomplish these aims, routine nursing care should be confined to care of minor wounds as follows:

a. Protect wound with sterile gauze while adjacent area is cleansed with soap and water, solvent or special detergents.

b. Discard protective dressing and clean wound margins.

c. Irrigate wound with sterile water or isotonic solution of sodium chloride.

d. Apply antiseptic of physician's choice.

e. Apply sterile dressing, interfering as little as possible with function. Sterile dressings should be cov-

ered with protective material for use at work. The worker should be instructed not to remove the dressing but to return if it should become loosened or uncomfortable.

Injuries most likely to be encountered in industry include the following conditions:

Abrasions: Clean and apply dry dressing. Extensive or deep loss of skin, especially about the fingers and hands, needs medical attention.

Contusions: Treat with cold compresses or cold soak directly following injury. After 24 hours, change to heat. If soreness or disability persists, or if deep involvement is suspected, refer to the physician.

Lacerations: Clean and apply dressing as directed. Any possibility of injury to joints, nerves or tendons should be brought to the physician's attention at once.

Puncture Wounds: Puncture wounds through the skin need direct medical supervision to avoid severe infection. If superficial, clean and apply sterile dressing.

Slivers and Splinters: Penetration through the skin by slivers or splinters always carries the risk of an infected puncture wound and should be treated as such. Those lodged superficially and easily removed without added trauma or incision may be extracted aseptically by the nurse.

Burns and Scalds: Clean minor burns with soap and water. Apply petrolatum or medication of physician's choice, bandaging firmly without interfering with function. Leave blisters alone.

In all other cases:

a. Notify the physician.

b. Cover the burned area with a sterile dressing or sheet moistened with isotonic solution of sodium chloride or five per cent sodium bicarbonate solution.

c. Combat pain and shock.

Chemical Burns should be treated by irrigation or immersion in water for at least 20 minutes and then by dressing.

Sprains and Strains: Treat first with cold compresses, elevation of the part, and rest. A physician's advice is necessary regarding strapping, other methods of support or fixation, further examination or special therapy.

Fractures: Preliminary steps for the nurse are:

1. Call a physician at once.
2. Keep the patient quiet and warm.
3. Immobilize before any movement is attempted. (Special instruction in splinting should be provided for every industrial nurse.)
4. Do not attempt reduction.
5. If the fracture is compounded, cover the site of the fracture with a dry sterile dressing. Do not cleanse or reduce.

Head Injuries: Until the physician assumes charge the nurse should:

1. Keep the patient lying down.
2. Elevate the head.
3. Apply ice cap or cold compress.
4. Do not give sedatives.
5. Record pulse, blood pressure and respiration every 10 minutes.
6. Clip or shave and cleanse areas adjacent to scalp lacerations, and cover with a sterile pad.

Chest and Abdominal Injuries: Contusions of the

Aluminum extension ladder is strong, yet easily carried

Lightweight and strength, aluminum's natural and important advantages, make this Safety Aluminum Extension Ladder extra safe and easy to handle. Weighing only 1⅝ lbs. per foot, it is easily carried even in longer lengths. Immunity to rust, rot and mildew, and high resistance to corrosion give it an extremely long life.

Positive, Self Locking Safety locks (see illustration) are easily adjusted at any height. Sturdy ⅞" x 1¼" oval rungs are double bolted to rails and have heavily serrated top edges to prevent slipping. Rails have interlocking channels instead of conventional guide irons used on wood ladders. Feet are combination type with super grip rubber treads and self-sharpening spikes.

Available in 16', 20', 24', 28' 32', 36' and 40' lengths. Single ladders with same features are available in 8', 10', 12', 14', 16', 18' and 20' lengths. Write The Patent Scaffolding Co., Inc., 38-21 12th St., Long Island City 1, N. Y., Dept. SM&P.

Aluminum Step Ladder has advanced safety design

In Addition to the lightness, strength and durability of its aluminum construction, this Safety Aluminum Step Ladder has many new special safety features. All of its steps are deeply grooved to prevent slipping. There are safety spreaders that eliminate the danger of pinched fingers.

Heavy Duty rubber boots on all four legs eliminate slipping, and marring of floor. Double bracing gives bottom extra strength (see inset). Pail rest closes by itself when ladder is closed after use. Extremely easy to handle, weighing only 2⅝ lbs. per foot.

Sizes: 3', 4', 5' 6' 7', 8' heights. Aluminum Step Stool, 27" high and 7 lbs., also available. Write The Patent Scaffolding Co., Inc., 38-21 12th St., Long Island City 1, N. Y., Dept. SM & P.

Branches in all Principal Cities.

FOR GREATER SAFETY...EFFICIENCY...ECONOMY

THE PATENT SCAFFOLDING CO., Inc.

38-21 12th St., Dept. SM&P, Long Island City, N. Y.
6931 Stanford Ave., Los Angeles 1, Calif.

(For details, use Key # W-31 on card on page 47)

cut industrial cleaning costs!

Safe Industrial Cleaning
with the M-M-A
"Little Windy" Airvac
(AIR-OPERATED VACUUM CLEANER)

29.95 EACH

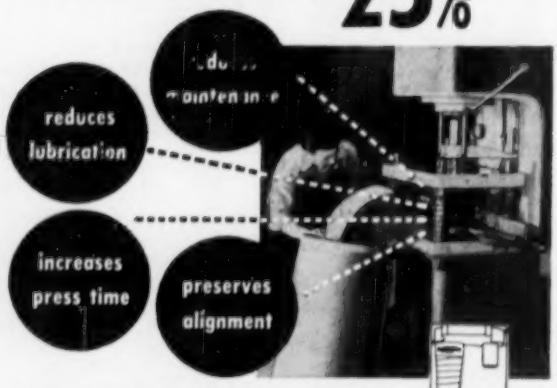
M-M-A, Inc.,
Lancaster, Pa.

Write for further data and technical information

(For details, use Key # W-69 on card on page 47)

ELASTICONE® GUIDE PIN COVERS

CUT DIE COSTS 25%



Low-costing Elasticone Guide Pin Covers reduce die breakage; protect man & machine — closes the gap between pins and bushings.
Just snaps into place—no installation costs.
Manufactured in stock sizes.

Write for full information and literature.

CENTRAL

MARSDEN
and MAGEE AVES.
PHILA. 35, PA.

CENTRAL SAFETY EQUIPMENT COMPANY

(For details, use Key # W-32 on card on page 47)

chest and abdomen with or without external evidence of injury may result in trauma to underlying organs. until seen by the physician, such patients must be:

1. Kept warm and quiet.
2. Allowed no sedative.
3. Have pulse, blood pressure, temperature and respiration recorded frequently.
4. Suitably bandaged to avoid contamination.
5. In case of abdominal injury, give nothing by mouth.

Eye Injuries

No patient with an eye injury should be discharged without examination by a physician. The greatest care must be exercised in maintaining the sterility of solutions and medications for use in the eye. These should be changed frequently. Never attend consecutive patients without sterilization of instruments and careful hand washing before and after treatment. Remember that early symptoms of infection can simulate foreign body.

Foreign Bodies: The nurse should attempt to remove only those foreign bodies of the eye which can be readily located and which can be easily washed out or removed with a moist sterile cotton applicator. An antiseptic may be applied if the physician so orders. Corneal foreign bodies always should be referred to a physician. Follow up to make sure the patient has completely recovered and is symptom free. Direct medical care is essential:

a. If the foreign body cannot readily be located. Stains to aid in the location of foreign bodies should be used only on specific medical order.
b. If removal requires any instrumentation.
c. If irritation or pain persists after removal.

Conjunctivitis: Conjunctivitis or other forms of conjunctival irritation should be referred routinely to the physician or ophthalmologist.

Minor Burns: Do not apply ointments to minor burns of the skin about the eye. Apply a sterile dressing and refer to the physician.

Chemical Burns: Irrigate chemical burns of the eye copiously and at once with water preferably by continuous irrigation. The promptness with which the irrigation occurs is most important. Continue to irrigate at least 20 minutes by the clock. In the meantime arrange for prompt medical attention.

Hot Metal Burns: Apply a sterile pad and refer at once to the physician. Do not irrigate. An anesthetic should be applied as ordered by the physician.

"Flash Injury": Persistent pain following flash needs medical examination and treatment. First aid treatment should include:

a. Local anesthetic as ordered by physician.
b. Cold compresses.
c. Sedatives.

Minor Illnesses and Symptoms

The complaints most commonly encountered in industry are noted below with suggested procedure. Persistent or recurring symptoms of irritation, discomfort or disability may suggest faulty work environment. The nurse should not hesitate to request

medical examination of workers and of the premises.

Fever: An elevation in temperature of one degree or more suggests medical consultation before work is resumed. Findings should be checked by repeated thermometer readings.

Headache: Record temperature. If headache is accompanied by dizziness, nausea, vomiting, stiff neck, injury, history of recurrence, fever, general malaise or other symptoms, the patient needs medical attention. If not accompanied by other symptoms, give an analgesic as ordered by the physician. Remember that headache or dizziness may be a premonitory sign of other illness.

Earache: Any earache that persists for even a short time should be seen by a doctor. Pain can often be relieved by a hot water bag. Cold will give relief sometimes if heat fails. Foreign bodies should be removed by the physician. Do not put drops in ear.

Toothache: If there is a cavity, the nurse may pack it with cotton dipped in oil of cloves for temporary relief. An analgesic as ordered by the physician may be given. For further examination and treatment refer to a dentist.

Nosebleed: Spontaneous nosebleed may be treated by cold packs or pinching the sides of the nose against the septum. Keep the patient sitting erect or standing and loosen the collar if it tends to constrict the neck. Advise the patient not to breathe or blow through the nose for an hour or two after bleeding has stopped. Bear in mind that certain occupational exposures are manifested by nasal damage and bleeding.

Sore Throat: Patients with sore throat may be given a hot saline gargle if they have a normal temperature. Do not "paint" the throat. Any persistent sore throat or one associated with fever needs medical care at home, and patient should be advised to consult personal physician.

Respiratory Irritation or Infection: Repeated or persistent signs of bronchial or chest irritation without associated infection may suggest an unfavorable occupational exposure or non-occupational allergy. A plant hygiene survey may be indicated.

Persons having acute respiratory infections with elevated temperature, cough, sneezing, or nasal discharge should be sent home for proper segregation, rest and medical attention. In mild infections, work may be continued if under medical or nursing supervision. Simple measures frequently will control symptoms and prevent spread. Available medical evidence at the present time cannot support routine administration of cold vaccines or vitamin preparations as methods of reducing the incidence or severity of acute respiratory infections. Frequent colds or chronic respiratory conditions in the same individual require special consideration.

Abdominal Distress: Abdominal distress, nausea or pain, especially if severe or persistent, requires competent medical diagnosis and management. Early signs of occupational poisoning may also be abdominal in character. Laxatives should never be dispensed from an employee health department.

(Continued on page 86)

WISE BUYERS KNOW HOW TO FIGURE COSTS

They know that the low cost of protection per man hour demonstrates smart purchasing

THAT'S WHY THEY SPECIFY LONG LIFE NEO-SOL ALL-NEOPRENE PROTECTIVE GLOVES

WHEN BUYING FOR SAFETY ALWAYS BUY THE BEST /

CHARCO
NEO SOL

Charco NEO-SOL all-neoprene gloves are acclaimed for demonstrated advantages over other gloves and for plus qualities of protection and cost economy, proven by extra long life on the job.

AVAILABLE IN BLACK
ALSO TRULY WHITE

NEO-SOL offers greater resistance to oils, chemicals, snagging, abrasion, puncturing and swelling. With "Grip-Saf" hand or smooth finish, in a range of sizes, lengths and thicknesses.

FREE
INDUSTRIAL PROTECTIVE EQUIPMENT CATALOG
With Chemical Charts & Glove Selector Guide

JOBBER INQUIRIES INVITED

CHARLESTON RUBBER COMPANY
31 STARK INDUSTRIAL PARK
CHARLESTON, SOUTH CAROLINA

Please send your Industrial Protective Equipment Catalog

Name _____

Company _____

Address _____

City _____ *State* _____

(For details, use Key # W-33 on card on page 47)

KEEPING UP WITH

SYNTHETIC CLOTH FILTERS

Cloth filtration has been adapted to fume control for electric steel melting furnaces, according to the Wheelabrator Corp. The method is said to provide more than 99 percent collection efficiency, even with small dust and fume particles. Because of this, atmospheric pollution outside the plant is also greatly reduced.

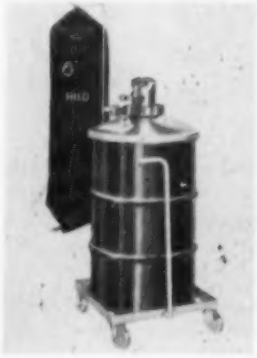
Wheelabrator Corporation's Dustube collectors employ cloth filters in the form of long tubes. Fume-laden gases are passed into the tubes, where the particulate matter is trapped. Clean air, containing no visible matter, is passed through. Synthetic cloths are employed in the filters to withstand high temperatures and corrosive atmospheres. Continuous automatic units are available and, although the tubes need to be periodically cleaned of their collected dust, timer mechanisms are provided to operate automatic shaking devices in the various compartments of the collector without causing any interruption in the collector's operation. Dust shaken out of the tubes settles into hoppers for disposal.

For details, use **Key # DF-1** on Inquiry Card on page 47.

TRANSFERABLE VACUUM

The Hild Floor Machine Co., Inc., has introduced a transferable vacuum for heavy duty wet or dry pick-up. Model 555 consists of four separate parts: motor and head plate; filter unit assembly; adjustable collar; and dolly. It has an outside filter bag. Model 455 can be easily transferred to 55, 30, 15 or 10 gallon tanks. 30, 15 and 10 gallon tanks with caster attachments are available from the company.

The unit has many applications. It can be used for dust-free sweeping without sweeping compounds. A pipe-cleaning tool with extensions permits cleaning of overhead pipes from the floor. There are attachments for cleaning shelves, walls, ceilings, and stock bins. It can also be used to drain coolant sump tanks.



The vacuum head has an aluminum casting with a one h.p. by-pass motor, which has its own independent cooling system. The air stream to the exhaust outlet completely by-passes the motor. It is not necessary to change filters when going from wet to dry work.

For details, use **Key # DF-2** on Inquiry Card on page 47.

DUST & FUME CONTROL DEVELOPMENTS

CLOTH FILTER DUST COLLECTOR

The AMERjet fabric arrester is a high efficiency dust collector designed especially for those applications where extremely fine particles are involved or where the material must be collected in a dry state for salvage. The cleaning media is automatically reconditioned by a jet of high pressure air forced through the cloth in the reverse direction to the flow of the air being cleaned. Because of this continuous media cleaning, the AMERjet maintains a constant pressure drop and thus a steady air flow at the exhaust points. This method also permits much higher velocities through the cleaning tubes. Therefore, less filter area is needed for a given cfm than is required by conventional bag collectors. The size of the dust collector needed is also materially reduced.

Tube lengths are available in 6, 9, 12, and 15 feet. Utilization of floating tension weights mounted in a flexible rubber seal keeps the tubes taut at all times thereby preventing wear from the blow ring mechanism. A manually driven and undirectional drive on the jet ring assembly gives a positive drive on both up and down strokes and eliminates the need for a reversing motor. A retractable rubber tubing for jet ring air supply prevents tube bends and wear on filter media. A wire spring tube clamp at both the top and bottom connection of the filter tubes permits easy installation and replacement. The AMERjet is available with enclosing air tight housing for conditions where exhauster is located on the clean air side or where cleaned air is discharged to atmosphere or process. Where exhauster is located on the air entering side and where recirculation of the cleaned air is practical, cost of housing is eliminated.

For details, use **Key # DF-3** on Inquiry Card on page 47.

MOVABLE DUCT EXHAUSTER

A system designed primarily to exhaust monoxide gases from diesel trucks, tractors, etc., undergoing repairs, has been developed by the C. L. Ammerman Co. Known as Swing-O-Way, the system is recommended for use where traveling overhead cranes will not permit duct work from the ceiling.

Dangerous fumes are drawn off at their source by the unit's mobile swing arm. The arm consists of a tubular 12 ft. duct and a retractable 10 ft. hose contained in the duct, giving the arm a combined 22 ft. range. Mounting can be on the ceiling or wall, allowing a 180 degree range of swing. The unit may also be used for welding and soldering operations, and is available in several models, with and without blower.

For details, use **Key # DF-4** on Inquiry Card on page 47.

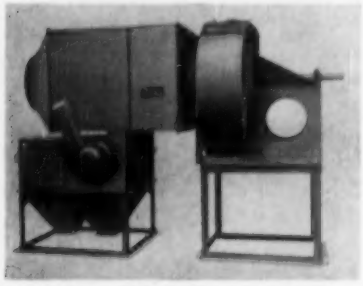
COMPACT AIR SAMPLER

For field collection of toxic fumes, vapors, gases or dusts, a compact air sampler has been announced by the Davis Emergency Equipment Co., Inc. The standard unit consists of a carrying case with a 110 Volt AC-DC motor and pump; a rotameter and valve to control the flow; compartments to hold analysis solutions and midget impingers as well as a trap to protect the pump from dusts and vapors. Where either 110 volt current is not available or samples must be taken in a hazardous area, an air aspirator is available to draw the sample into the midget impinger or through the filter holder for particulate matter.

The air aspirator may be used in many ways (hooked directly to plant air by means of a valve to

control the rate of flow through the rotameter; by means of a small pressure reducing valve attached to a cylinder of compressed air, nitrogen or oxygen). Small cylinders which may be carried in the pocket are also available for short duration sampling. A filling adapter is available for filling the small cylinders from large commercial cylinders. When small cylinders are used for sampling, a flow orifice may be attached to the pressure reducing valve. By varying the low pressure side of the valve any desired flow may be maintained without a rotameter.

For details, use **Key # DF-5** on Inquiry Card on page 47.

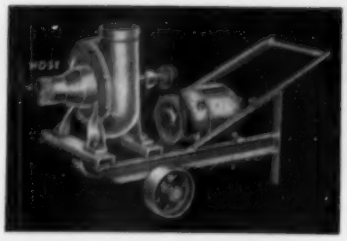


DRY TYPE CENTRIFUGAL COLLECTOR

The American Air Filter Co., Inc., has introduced a dry type centrifugal collector known as AMERclone. It is designed to handle large exhaust volumes containing abrasive dust even in high concentrations. A single AMERclone tube is 4-in. in diameter and has an approach velocity of 1000 fpm with a cleaning capacity of 350 cfm. There are 9 tubes to a cell with a cross section dimension of 20X20-in. capable of handling 3000 cfm. Any combination of cells can be provided to meet the air volume required.

The AMERclone collector is said to be less subject to abrasion due to its abrasion resistant construction featuring thick wall gray iron casting. Also, there is no recirculation of the dust load to increase the abrasive effect. The collection efficiency remains practically constant over a wide range of exhaust volumes with the compensating feature of the secondary air circuit.

For details, use **Key # DF-6** on Inquiry Card on page 47.

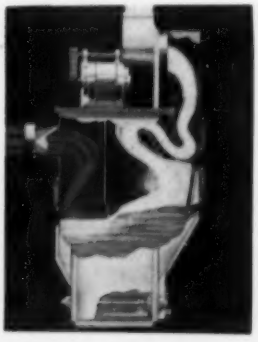


PORTABLE FUME COLLECTOR

Manufactured by the Ruemelin Mfg. Co., this fume collector is designed to gather welding fumes, smoke, and gas from tank interiors and other inaccessible areas. Because the unit is portable, adequate fume removal is possible wherever welding operations are performed.

Designated the No. 2660, the unit is mounted on a car type platform with 8-inch diameter rubber tired wheels. The collector handles up to 35 ft. of 4-inch flexible metal hose, and is complete with fan and a 1½-h.p. motor.

For details, use **Key # DF-7** on Inquiry Card on page 47.



WET DUST COLLECTOR

Foundrymen, chemical engineers, metallurgists, plant engineers, safety engineers and those responsible for controlling industrial dusts will be interested in the new Ventrijet wet dust collector manufactured by the Pangborn Corporation. The unit is said to achieve the proper atomizing of water and mixing with the air stream to permit efficient dust transfer by the movement of air without mechanical means.

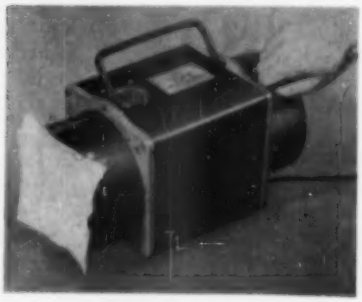
Dust laden air enters the collector and expands in the inlet chamber at reduced velocity. The heavier particles sink to the bottom of the tank as sludge. The air is drawn through one or more venturi tubes into the discharge chamber. The low pressure area in the venturi throat induces water also to enter the high velocity air stream. The mixing of air and water causes the transfer of dust particles from the air to the water particles. The air, water and sludge mixture impinges at high velocity on special surfaces in the discharge chamber. The sludge settles to the tank bottom. The washed air then flows through an eliminator section for removal of droplets and clean air is discharged. The Ventrijet is available in a range of capacities from approximately 1,000 to 30,000 cfm in single and double row tube types.

For details, use **Key # DF-8** on Inquiry Card on page 47.

AIR SAMPLER

A new type of instrument which enables precise measurement of airborne contaminants taken from large samples of air has been developed by the Mine Safety Appliances Company. The instrument is used to collect these contaminants to be weighed and analyzed in connection with industrial hygiene or air pollution problems.

Feature of the new instrument, known as the M-S-A Fixt-Flo air sampler, is an automatic flow control which compensates for changes of filter resistance caused by collected material. This is an important factor in achieving high accuracy in determining the volume of large samples of air. Automatic control of air flow rate is provided by a compensating damper in a by-pass duct for unfiltered air. Filtered air enters a plenum



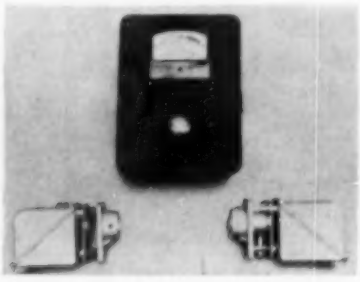
chamber and passes through a fixed orifice in a spring-loaded diaphragm plate. As filter resistance increases, pressure in the plenum chamber decreases, thus releasing the diaphragm plate to close a switch that starts the by-pass damper motor. The damper reduces the by-pass air flow, thereby increasing suction through the filter. Changes in supply voltage also cause damper operation to increase or decrease by-passed air flow and thus maintain constant air flow volume through the filter. The Fixt-Flo sampler is a rugged instrument that is easy to operate with no gauges to watch and no adjustments. A wide variety of filter media can be used without knowledge of their specific resistances. Filters can be cut from bulk material. Any of three flow rates may be selected by the user: 15, 30, and 50 cu. ft. per minute. The sampler is small: 7¼ x 7¼ x 15 inches, and light in weight: 13½ pounds. It operates from 110-volt, 60-cycle power supply.

For details, use **Key # DF-9** on Inquiry Card on page 47.

SMOKE DENSITY INDICATOR

Fireye Smoke Density Indicator System FE-3 makes available to industry a new, efficient method for keeping smoke discharge within limits of all smoke control and air pollution ordinances. For use with the system, three smoke density recorders are available.

The system consists of a light source, a photoelectric scanner, and a smoke density indicator. Light source and scanner are installed on the stack or breeching so that the light beam is aimed directly at the lens of the scanner. The density of smoke obscuring the light beam is accurately measured and indicated directly on the smoke density indicator in terms of both smoke density and Ringelmann Number. An alarm relay provides for the operation of an external alarm at any preset value of smoke density.



One of three Series 55 recorders may be used with the new indicator system to make continuous recordings of smoke conditions over a 24-hour period. The 55AK1 Smoke Time Recorder is a single pen unit and records periods of excess smoke on a twelve-inch chart, showing both time and duration of excess smoke over a preset value. The Type 55AL1 Smoke Time Recorder provides eight-inch chart records of time and duration of excess smoke from two or more smoke density indicators. The Type 55-AM1 Smoke Density Recorder provides a continuous record of smoke density directly on a twelve-inch chart and is calibrated to record the Ringelmann Number of the smoke condition.

For details, use **Key # DF-10** on Inquiry Card on page 47.

VI-LAN CLEAN

dispensers

on the job and in wash rooms will prevent the menace of

dermatitis

. . . lost man hours and lost profits!

This new antiseptic all-purpose skin cleanser contains ACTAMER, a non-toxic bacteriostat, perfected by Monsanto Chemical Company, exerting a powerful inhibitory action against harmful skin bacteria for 48 hours after use.

VI-LAN CLEAN does what ordinary soaps can not do. It removes greases, oils, paint, acids, graphites, printing inks, asphalt, rubber, gasket cements and other industrial soils and sediments, and provides the prophylaxis inhibiting the germs which too often put employees out of commission.

So, serve and protect your employees with VI-LAN CLEAN—install the new VI-LAN CLEAN dispensers in every wash room and on critical on-the-job locations. MAY BE USED WITH OR WITHOUT WATER.

To fill dispensers VI-LAN CLEAN is packed in polyethylene bags, allowing you to release any amount of the cream simply by finger pressure on the bag without waste. This container also may be used conveniently as a portable dispenser on trucks and outside jobs.

Also available in convenient pint, quart and gallon containers for home and shop use.

Write for descriptive folder today!

DAMERON enterprises, inc.
427 So. 20th Street
Louisville 3, Kentucky

(For details, use Key # W-34 on card on page 47)

DWARF DUST COLLECTOR

Craftools Inc. announces a Dwarf Dust Collector Unit for application on small machines where dust presents a special problem, as in small shops, laboratories, tool rooms, etc. The unit handles 230 cu. ft. of air per minute and separates the dust so that the heavy particles are retained in an expansion chamber while fine dust is collected in a filter bag. An air outlet is furnished for cleaned air discharge to the outside atmosphere if required.

The unit is designed so that one or two machines can be connected with the collector. These Dust Units can be adapted to any machine, such as belts and disc sanders, circular saw tables, buffers and grinders, metal and wood band saws, routers, abrasive cut-offs, radial saws, milling machines, surface and tool grinders, tile and ceramic cut-offs, or packaging machines, by the use of a simple standard hood. Attachments are available that convert the unit into a vacuum for maintaining and cleaning all machines in the shop. A set of casters are also available for making the unit mobile.

For details, use **Key # DF-11** on Inquiry Card on page 47.

FILTER ATTACHMENT FOR DUST COLLECTOR

Highly effective filtration through its six "throw-away" filters is one of several features of the new after-filtering mechanism designed for the Torit model 219 FM-A cyclone-type dust collector by Torit Manufacturing Co. Used to collect dust, lint, chips, powders and fumes in industrial plants, the 219 FM-A recirculates filtered air back into the

"Psst, buddy . . .

'Ya know the exhaust mufflers that come on most of the better pneumatic equipment these days . . . well look, you can buy the same ones for your equipment. Called *ATOMUFFLER*

. . . no different, same ones, just screw 'em on the exhaust port opening; 1/8" to 2" NPT. They *really* stop the noise; 99.9% of it. Stop oil fog and water spray, too. And listen . . . they won't restrict air flow! That's right. *ATOMUFFLER.*

Send for free literature now.

. . . remember, noise control makes cents!

ALLIED WITAN CO., INC.
12500 BELLAIRE ROAD, CLEVELAND 11, OHIO

(For details, use Key # W-35 on card on page 47)

(For details, use Key # W-36 on card on page 47)

'PAC-KIT'® FIRST AID

MODERN UNIT TYPE FIRST AID EQUIPMENT FOR EVERY EMERGENCY

'PAC-KIT' provides standard products packed in individual cartons with illustrated First Aid Instructions.

Electrically welded 20 gauge steel, dust and moisture proof cases provide complete protection of contents and long service.

No. 748 SNAKE BITE KIT SUCTION FIRST AID

APPROVED BY SPORTSMEN'S RESEARCH (NON-PROFIT)

Easily operated with one hand. ANYONE can give effective first aid. KIT CONTAINS: *Tourniquet, Lancet and Suction Syringe, with*

- 1 Curved Rubber Suction Cup
- 1 Large Rubber Suction Cup
- 3 Iodine Applicators
- 3 Ammonia Inhalants
- 3 Adhesive Bandages

Wt. complete in metal case, 7 ozs.

IMPROVED FIRST AID FOR BURNS

FIRE, ELECTRICAL, WELDING, STEAM AND FRICTION BURNS.

Scalds — Sunburn — Windburn

P-K BURN OINTMENT provides immediate and sustained relief. It is a soft Lanoline base cream with an effective analgesic.

Liberal free sample on request.

VISIT OUR EXHIBIT BOOTH AT THE NATIONAL SAFETY CONGRESS

Ask for a free sample of P-K BURN OINTMENT—The Improved First Aid for Burns

FIRST AID 'PAC-KIT' TRADE-MARK EQUIPMENT

THE PAC-KIT COMPANY

P. O. BOX 1306 GREENWICH, CONN.

(For details, use Key # W-37 on card on page 47)

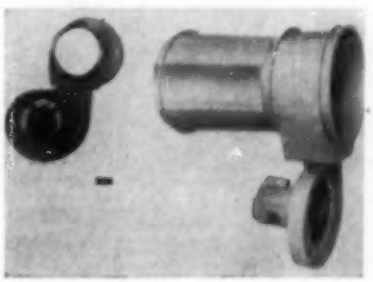
room, thus preventing heat loss during cold weather. Its 5 HP, 3450 RPM motor pulls 2100 cu. ft. of air per minute through the 8" inlet at a static pressure of 3.0" (water) and an air speed of more than a mile a minute.

Depending upon the particle's size and specific gravity, efficiency of the unit's centrifugal action varies from 75% to 95%; thick pads of glass insulation wool on each of two open surfaces on the after-filter frame remove any fine dust that has not already been trapped in the internal reservoir. There is no loss in the machine's initial performance from the filter addition. Each filter is held to the frame by wing nuts, and they may be quickly removed for replacement. Frame is 20-gauge steel with blue-gray wrinkle finish and measures 81" x 51" x 14".

For details, use **Key # DF-12** on Inquiry Card on page 47.

HEAVY-DUTY EXHAUSTERS

New standard and heavy-duty commercial power exhausters, developed for industrial venting applications and commercial heating plants without exposing fan blades and motors to exhaust gases, have been announced by the Quickdraft Co. Mounted outside the exhaust units, the fans and motors run in clean room air, or in ducts that supply clean outside air. Quickdraft is designed to direct injected air into a conical jet that "pulls" exhaust gases into the unit and "forces" them into the atmosphere.



Because fans and motors are not exposed to abrasives, corrosive gases, smoke, noxious fumes, high temperatures, moisture and steam, maintenance costs are materially reduced. Downtime, commonly required for cleaning and replacing blades when fans are mounted in exhaust lines, is eliminated. Even in the event of power failure, vent lines are not obstructed by idle fan blades or motors. The new exhausters do not require a stack for either industrial venting or heating plant installations. Units are built in eight sizes for vent diameters of 12, 14, 16, 18, 20, 22, 24 and 30 inches. For exhausting direct to atmosphere or into standard stacks and chimneys, capacities range from 141,600 to 877,000 cubic feet per hour. Special exhausters can be made for handling greater capacities.

For details, use **Key # DF-13** on Inquiry Card on page 47.

★ THE POSITIVE LADDER SAFETY DEVICE

It locks automatically—instantly—holds.

SAFETY DEVICE FOR LADDERS

Prevents death and injuries from falling.

Automatic: Positive. Will catch workman if he starts to fall even if unconscious.

Inexpensive. Easy to install. No upkeep. Clamps to any rung ladders, peg ladders, pole or frame. No welding or cutting.

Simple to operate: Requires no attention from climber.

Notched rail **hot dipped galvanized.** Entire equipment rust and corrosion proof.

In use throughout country and abroad for approx. 8 years.

Patented. Manufactured only by

SAFETY TOWER LADDER CO.

1024 Burbank Blvd. P.O. Box 1052

BURBANK, CALIFORNIA

★ ★ ★ ★ ★

(Use Key # W-38 on Inquiry Card on page 47)

Self-Sticking Safety Signs

Unskilled help quickly puts up Brady Safety Signs—without nails, screws, or tools. They stick and stay stuck to any surface.

The signs you need are among the 500 different Brady Self-Sticking Accident Prevention Signs. Wordings, colors, and sizes are recommended and approved by ASA and NSC. Write for free samples and Catalog 145-D.

Self-Sticking Warning Stripes are applied fast — right off the roll. Stripes in 2 sealed-in plastic colors. Outlast paint. Write for free samples and Bulletin 143-A.

Fast delivery. Distributors in 150 cities.

W. H. Brady Co.

749 W. Glendale Ave., Milwaukee 12, Wis.

(Use Key # W-70 on Inquiry Card on page 47)

ODOR-REMOVING FILTER COATING

Research Products Corp. has announced the development of an odor-removing adhesive, Super Filter Coat, for use on their washable filters. The manufacturer states that the new adhesive, which is sprayed on the filters after washing, removes dirt and dust, as well as odors from the air streams circulating through the forced air furnace or air conditioner. The company points out that this is not simply a masking process, but is positive odor-removal from the air. The adhesive is available in bulk quantities for extensive filter cleaning operations.

For details, use **Key # DF-14** on Inquiry Card on page 47.

DACRON AFTER-FILTER BAGS

All new Torit FB (bag-equipped) cyclone-type dust collectors will be furnished with after-filter bags of Dacron cloth in place of the standard wool, announces the Torit Manufacturing Co. The use of after-filters makes possible the recirculation of clean, heated air indoors, where regulations permit, instead of exhausting it out of doors, thereby reducing heating costs. It is said the Dacron cloth, fully as effective a filter medium as wool, will not burn when exposed to a continuous shower of sparks. In addition, the moth and mildew resistant material will not shrink when laundered. Five collector models are affected by the change. Dacron bags are available for machines now in operation.

For details, use **Key # DF-15** on Inquiry Card on page 47.

AIR FILTER TESTER

Research Appliance Company is now manufacturing the Dill Dust-Spot Tester, which is used to measure accurately the efficiency of all types of air filters in ventilating systems. This tester has been in use for many years and has been commonly known as the "U. S. Bureau of Standards Discoloration Test," "National Bureau of Standards Dust-Spot Test," or "Bureau of Standards Blackness Test."

It is a portable unit that makes rapid, accurate determinations at the point of installation. Actual atmospheric contamination is used as the basis for the test; artificial test dusts do not have to be introduced into the system. The unit may be purchased outright or Research Appliance provides a testing and evaluating service.

For details, use **Key # DF-16** on Inquiry Card on page 47.

Vehicle Safety-Check

Nearly 2,200,000 cars and trucks were voluntarily checked for safe operation during the 1956 National Vehicle Safety-Check program. ONE out of every FIVE vehicles checked for safe operating condition was in need of maintenance attention to one or more parts. Of the ten items safety-checked, rear lights, brakes and front lights stood out as parts most frequently in need of immediate service attention. The other seven items were: exhaust system, tires, steering, windshield wipers, glass, horn, and rear-view mirror.

Fifty-three cities and twelve counties were cited for outstanding support of the 1956 program. These award-winning programs accounted for the safety-checking of 659,433 of all vehicles checked in the nation. Grand award winners were New Bern-Craven County, North Carolina, and Gastonia, North Carolina. National Awards of Excellence for their population groups went to: Great Bend, Kansas; Gary, Indiana; Gates County, North Carolina; and Trumbull County, Ohio.

Office Lighting Guide

A new "I.E.S. Recommended Practice for Office Lighting" has been released by the Illuminating Engineering Society, the first report on this important lighting subject since 1947. The new report is 32 pages in length, completely illustrated, and with much of the valuable information arranged in tabular form for easy reference, making it an excellent manual for anyone concerned with the problem of office lighting.

Based upon the concept of lighting for specific tasks, the report introduces the subject with a general description of office operations, in which the eyes are used at close range for severe visual tasks. These include reading duplicated material, handwriting, pencilled stenographic notes, typing and fine print. "The visibility of such work is often poor and more attention should be devoted to its improvement," says the Committee, recommending specific preferred type sizes, paper finishes, ink, etc. in this opening section.

The following two sections cover Influence of Lighting on Seeing and Influence of Environmental Factors. In these two sections are discussed: quantity and quality of illumination; recommended illumination levels, with table of levels for seeing tasks in 18 typical office departments; glare, including a table of acceptable brightness limitations, and a detailed discussion of reflectances as to finish and color of ceilings, walls, furniture, office machines and equipment, and floors. Of particular importance and value are the final sections which deal with lighting systems and specific areas.

Sections 5 and 6 cover: lighting systems for office areas, covering daylighting as well as every known type of electric lighting system; and lighting and seeing in specific areas, which recommends and illustrates the most desirable type of lighting for each area and task, from private offices on through filing rooms, mail rooms, corridors and stairways. Maintenance is thoroughly covered, including specific plans for cleaning and relamping, together with a sample expense analysis worksheet.

The new guide is especially valuable for architects and consulting engineers, building and electrical contractors, building owners, managers and maintenance people, office management, in short, anyone to whom new or improved office lighting is a problem. Individual copies of the new "I.E.S. Recommended Practice for Office Lighting" are 50¢ each and may be obtained from Publications Office, Illuminating Engineering Society, 1860 Broadway, New York 23, N. Y.

Approved Equipment List

The 1956 edition of Factory Mutuals' Approved Equipment is now available. The testing procedures on which the approval list is based are designed to provide guidance to buyers of: 1. dependable equipment for fire control and extinguishment, and 2. dependable equipment that is safeguarded against inherent fire and explosion hazards. The listings include such products and devices as: sprinkler system components, fire pumps, watchmen's clocks, smoke detectors, magnetic separators, water tanks, fire doors, extinguishers, extinguishing systems, safety cans, gas masks, gas detecting equipment, spray finish-

for safety first and protection that lasts!

TOWER'S Neoprene Clothing

Wherever personnel safety can be threatened by the lack of adequate protection from greases, oils, water, most acids and chemicals, that's where TOWER'S *extra protective* Clothing belongs. These comfortable, designed-to-fit garments are made of strong, impregnated fabric and are coated inside and out with hazard-resistant Neoprene Latex. Coats, jackets, overalls, hooded shirts, hats and aprons . . . for *every* industrial use. For complete information mail coupon today, or if you have a particular problem, let us know and we'll solve it quickly with the garment best suited to your needs.

for Neoprene Latex Clothing — for Rubber Latex Clothing

MAIL COUPON TODAY!

Please send me folder

Name .....

Address .....

City ..... State .....

Please address Dept. SM

A. J. TOWER CO.

A Division of Stevens-Tower, Inc.

Boston 30, Mass.

(Use Key # W-39 on Inquiry Card on page 47)

ing equipment, ovens and furnaces, fuel valves, combustion safeguards, industrial trucks, etc.

Copies of the new edition of the approved equipment manual can be obtained for $2.00 from Factory Mutual Engineering Div., 1151 Boston-Providence Turnpike, Norwood, Mass.

Industrial Vision

In the United States alone more than 80,000 persons, it has been estimated, have lost the sight of one eye as a result of industrial hazards and nearly 8,000 have lost the sight of both eyes as a result of these accidents, according to H. W. Hofstetter in his forthcoming book, "Industrial Vision," published by Chilton Company.

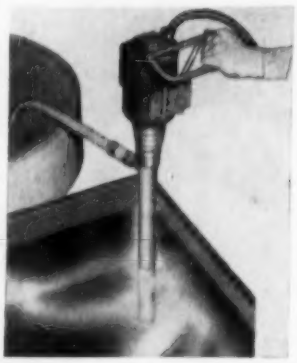
The importance of industrial vision is not fully understood, Dr. Hofstetter says, and the fact that an employee's eyes are tools as specialized in their application as the hammers, gauges, and files he uses to carry on his trade has often been disputed by experts.

"The confusion," Dr. Hofstetter says, "seems to lie in the attempt to associate vision characeristics with specific jobs or typical jobs classifications, rather than with the vision requirements or the visual demand specifications of the job."

He gives a complete statistical analysis of vision and industrial efficiency by considering all sides of the controversial subject. Employee performance and competence is shown in the light of supervisors' ratings, production ratings, quality ratings, accident frequency records, and absenteeism. In separating his book into divisions which cover industrial eye hazards and protection, visual testing in industry, vision and industrial efficiency, industrial compensation for loss of vision, visual test for driving ability, and the relation of vision and visual testing to driving ability, Dr. Hofstetter, Director, Division of Optometry, Indiana University, has directed his book to ophthalmologists, opticians, optometrists, physicians, nurses, and industrial safety directors alike.

The 188-page illustrated book is available for $10.00 from Chilton Co., Chestnut & 56th St., Philadelphia 39, Pa.

THOMPSON'S CENTRI-F ACID PUMP



Designed to safely transfer acids from any standard carboy or drum, as well as from small, open, storage and plating tanks, this new, motor-driven, centrifugal pump delivers a smooth, spurt-free flow of acid at the rate of approximately six gallons per minute.

Being self-priming and self-draining, no acid remains in the pump when it is removed from the container, and it may easily and safely be carried from one container to another.

Constructed of stainless steel, Teflon and Polyethelene, the pump may be used with almost all of the commonly utilized industrial acids.

Order from your regular supply jobber.

THOMPSON MANUFACTURING COMPANY, INC.

152 WEST 12th ST. ERIE, PA.

(For details, use Key # W-40 on card on page 47)

New Extinguisher Standard

A 35-year precedent has been broken in the revised 1956 edition of "Standards for the Installation and Maintenance of First Aid Fire Appliances" just published by the National Fire Protection Association.

A new extinguisher classification scheme is presented for the first time since 1921. The classification indicates the relative extinguishing capacity of different kinds of extinguishers on ordinary and flammable liquid fires. It emphasizes the fact that not all fires are alike and an extinguisher suitable for one type of fire will not be at all effective on another.

Officially adopted at the recent NFPA Annual Meeting, the revised standard was prepared by a representative national committee under the chairmanship of J. A. Bono of Underwriters Laboratories, Inc.

The standard also gives detailed suggestions for the operation and maintenance of soda-acid, water, foam, vaporizing liquid, carbon dioxide, dry chemical, and wetting agent extinguishers. The standard is now available in pamphlet form from the NFPA, 60 Batterymarch Street, Boston, at 35¢ per copy. It is also included in the 1956 edition of the National Fire Codes published in September.

SAFETY
FIRST
YOU CAN USE THIS CHANGEABLE DISPLAY FOR SAFETY FIRE HAZARDS CLEANLINESS PLANT ACTIVITIES AND MANY OTHER MESSAGES

FOR SAFETY'S SAKE . . .

DAV-SON FLASHING SAFETY DIRECTOR

With Amazing Changeable Letter Slide Out Panel

Bright traffic light red, green spots flash "SAFETY FIRST." Color, motion, light bring eyes directly to message. Only DAV-SON has changeable letter design with removable panel for quick changes, peak attention. 98 red 3½" and 250 black 1⅛" acetate letters in compartment box incl. Size 18½x29x6. Complete with lamp and U.L. Cord. **$39.75**

Insist on genuine self-sealing cork back bulletin boards—hardwood frame. Sizes 12x18 and larger. With or without glass doors. **$4.15** up. Also with metal frames for inside or outside use.

A Dav-Son board for every purpose. Over 100 different sizes and styles to choose from. *Dealer Inquiries Invited.*

If your dealer doesn't have the Dav-Son board you need write direct.

A. C. DAVENPORT & SON, INC., SAMP

311 N. DESPLAINES STREET • CHICAGO 6, ILLINOIS

(For details, use Key # W-72 on card on page 47)

Cooperation Needed in Logging & Sawmill Accident Survey

As a service to the occupational safety movement, the Labor Department's Bureau of Labor Statistics will intensively study work accidents in the high-hazard logging and sawmill operations.

Ewan Clague, Commissioner of Labor Statistics, has pointed out, however, that there are many operators whose injury rates compare favorably with the best in other types of employment, despite a high average rate for the industry.

The purpose of this one-time study is to provide the industry with detailed information about the occurrence and causes of accidents for use in accident-prevention. In contrast to the generalized industrywide information regularly available, this study will reveal separate injury experience data for each major producing region in terms of the many variations of activities within the industry. Accident causes will be classified and analyzed in regional, activity, and occupational detail.

With these details, safety engineers, management personnel, and workers in the industry will possess detailed factual information to help their task of planning and conducting safety programs. In particular, the information will help to stimulate and maintain interest in safety in those areas and operations where safety has been neglected.

The Bureau will be distributing a form to the industry requesting summary information about the hours worked and injuries experienced by its employees during 1955. These report forms were prepared in discussions with the leading trade associations of the industry. From these reports the Bureau will prepare injury-frequency and injury-severity rate analyses, following American Standards Association procedures. Bureau representatives will then personally visit a selected sample of logging and sawmill operations to obtain case records of individual accidents.

To insure the success of this special service to the Safety movement, it is essential that all employers receiving requests for information complete the forms and return them as promptly as possible. Reports are needed from operators in every State, small as well as large firms, and from firms which have had no injuries as well as from those which have many cases to report. Each reporting firm will be making an effective contribution to the advancement of safety "know-how" in the industry.

Survey results will be made available for direct use in accident prevention through the various trade associations of the industry, reports prepared for national safety periodicals, and in special Bureau publications. The information supplied by cooperating firms will be used for statistical purposes only, and all replies will be treated as strictly confidential.

BRIDGE THE "DANGER PERIOD"
WITH
HAWS EYE-WASH FOUNTAINS

Even though summoned medical aid arrives as rapidly as possible, time elapsing between occurence of eye accidents and a physician's care is too often the period when permanent harm is done.

Bridge this "danger period" with HAWS Emergency Eye-Wash Fountains that permit injured workers *instantaneously* to wash injurious matter from their eyes with clear water at safe *controlled* pressure.

Available with HAWS Drench Shower Attachment to form an "emergency first aid station" for your employees' protection. *All HAWS Safety Equipment is designed and manufactured in cooperation with leading safety engineers.*

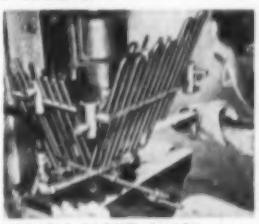
Write for full details today!

HAWS DRINKING FAUCET CO.
1439 FOURTH STREET (Since 1909) BERKELEY 10, CALIF.

(For details, use Key # W-42 on card on page 47)

SEARJEANT *Safety* GUARDS

FOR
PUNCH
PRESSES
Fit any Press
30 DAY
FREE
TRIAL



SWEEP GUARD
Guards to fit all types and sizes of punch presses. Single and double sweep arms available. Hardened wearing parts assure years of trouble free service. Send for Bulletin H.

ADJUSTABLE BASKET GUARD
Enclosure type guard, used for blanking and other first operation work, prevents operator from reaching in or coming in contact with moving die. Easily installed on any make punch press. Also available with clear plastic window. Write for free catalog.

Other Guards Designed and Made by Searjeant
Double Sweep Guard • Two-Hand Electro-Solenoid Control
End Zone Barrier Guard • Enclosure Guard for Milling Machines • Non-Repeat Mechanism

SEARJEANT METAL PRODUCTS, INC. No. 12 Pittsford Rd., Mendon, N.Y.

(For details, use Key # W-43 on card on page 47)

Mitchell Asks Safety Salesmanship

Secretary of Labor Calls for Small Plant Safety

There is no dearth of knowledge as to what needs to be done to make any given plant a safer place in which to work, Secretary of Labor James P. Mitchell commented recently.

The trick, he said, in a recent issue of "The Saturday Evening Post," is to get the know-how applied in every workplace, especially in the smaller concerns where the need is the greatest.

Mitchell's article, "Stop This Senseless Killing!" reported that this problem was to be explored at President Eisenhower's Conference on Occupational Safety held in Washington several weeks ago.

In outlining the situation, the Secretary told of a decline for several years in the injury frequency rate for most types of employment and a spectacular reduction in manufacturing, yet on-the-job injuries struck down 1,930,000 men and women last year.

Mitchell noted, however, that the effective safety techniques which are strictly applied in larger plants do not reach 2,000,000 smaller establishments. These employ more than half our workers and have at least 70 percent of all industrial accidents.

His report said the Department of Labor has authority to enforce safety standards in certain limited areas, but stated that the basic responsibility rests with the states . . . three-fourths of whom have safety fund allotments so small that it is not possible to conduct one inspection per plant per year.

Mitchell commented that there is no reason why the states cannot do a better job of providing a safety service through plant inspection and safety programs.

He said this is the reason why the administration's budget for the fiscal year beginning July first provides $2,000,000 in Federal grants to state labor agencies. The Secretary is also of the opinion that far more can be accomplished by safety salesmanship than by Federal or state policing.

Sanitation Show

Plans for the recently announced International Sanitation Maintenance Show and Conference are moving ahead rapidly, according to William S. Orkin, producer of the show, which will be held in the New York Coliseum, October 14–16. Some of the subjects which will be discussed by prominent authorities in the field are: **Structural Maintenance, Cleaning Maintenance, Analyzing Sanitation Labor Costs, Mutual Aid In Purchasing Sanitation Supplies And Equipment, Power Machines For Sanitation.**

Some of the best-known and respected manufacturers of sanitation products have already reserved their space in the show, according to Mr. Orkin. The United States Public Health Service plans a special exhibit of its activities in the field of industrial sanitation. Further details about the show can be obtained from: Orkin Expositions Management, 19 West 44 Street, New York, New York.

Blasting Cap Safety Promotion

As part of its continuing campaign to safeguard children against the dangers of blasting caps, the Institute of Makers of Explosives is distributing a new poster and pamphlet to contractors, miners, quarry operators and other users of commercial explosives.

Designed for use on bulletin boards, magazines and tool sheds wherever blasting caps are used or stored, the four-color poster warns "Blasting Caps can cripple and blind! Lock 'em up so kids can't get at them." The accompanying pamphlet drives home the fact that blasting caps are safe in experienced hands, but dangerous to children.

For more than 30 years, the Institute—an association of commercial explosives manufacturers—has spearheaded a nationwide safety program to eliminate blasting caps mishaps. One phase of the campaign is directed at alerting boys and girls to the hazards of playing with caps. Precautions for safe handling naturally vary by industry. The problems of a miner are different from the contractor or layers of pipe line. But wherever caps are used "play it safe" is the watchword.

The effectiveness of the work on these two fronts is clearly shown by the decline over the years in the number of children injured in these tragic accidents. But the task is never-ending. New groups of children come along every year.

NO LONGER AN "EXPERIMENT"

BUT

A PROVEN AID TO SAFETY-TO-LIFE

Automobile and truck safety belts, tested and approved, can and do save lives of car passengers and truck operators who would otherwise be thrown out of motor vehicles.
Industry as well as large insurance companies, agencies and brokers now equip their fleets with the SURE, FOOL-PROOF

ASSURED SAFETY BELTS

With METAL-TO-METAL BUCKLE and belt of NYLON, resisting a test-load of over 5,000 pounds.

ASSURED SAFETY BELTS

Highest safety ratings from independent testing laboratories—they provide FULL SECURITY due to special construction.

Write for special rate on dealers' basis.

ASSURED SAFETY BELT DIVISION

C. E. WOODWARD, Genrl. Mgr.
4137 W. Kinzie St.

ASSURED SAFETY DEVICES, INC.
Chicago 24, Ill.

See Demonstration & Exhibit, Booth # 131, National Safety Congress

Detroit Fire Program

A veteran Detroit fireman has been appointed to head a new state-wide program in industrial fire control, The University of Michigan Extension Service has announced. He is William B. Burr, who retired August 10 as a lieutenant after 25 years service with the Detroit Fire Department.

Burr will help industry in Detroit and other major metropolitan areas of the state set up and train industrial fire brigades. In many cases, the brigades will be composed of regular, on-the-job employees trained to deal with the major fire hazards at an individual plant. In others, full time professional fire-fighters may be recommended.

Purpose of the brigades will be to stop industrial fires in their initial stage or hold them in check pending arrival of regular municipal fire crews. Establishment and training of the brigades will be tailored to the needs of each firm cooperating in the program.

In addition, Burr will coordinate an annual state-wide industrial fire control seminar and regional schools in industrial fire control outside the Detroit area. Organization of the seminar and regional schools will parallel the Extension Service's present program for municipal firemen.

Nearly 500 major industrial firms in the metropolitan Detroit area will be given full details of the program by the Extension Service. Other major metropolitan areas in the state will be contacted later concerning their interest in the program.

Persons desiring information on the program may contact Burr at the U-M Extension Service Office, Rackham Educational Memorial Building, 60 Farnsworth, Detroit.

Fire Losses Rising

Estimated fire losses in the United States during July amounted to $68,752,000, the National Board of Fire Underwriters has reported. This loss represents a decrease of 8 percent from losses of $74,770,000 reported for June (1956) and an increase of 11.6 percent over losses of $61,614,000 reported for July, 1955.

Losses for the first seven months of 1956 now total $586,155,000 an increase of 10.3 percent over the first seven months of 1955, when they amounted to $531,371,000. These estimated losses include an allowance for uninsured and unreported losses.

Automation for Fire

Fire-fighting automation can be built into modern factories, says the Civil Defense and Fire Services Officer of one of Great Britain's largest industries. J. H. Hutchinson of Imperial Chemical Industries Ltd. told the concluding session of the 60th annual meeting of the National Fire Protection Association that the problem of preventing or halting accidental fires arising from the human element in industry must continue to be solved largely by education in safe mental attitudes—and by personnel training for fighting fires that do start.

But, if such accidental fires may thus be eliminated through training in fire-consciousness, he said, "It is safe to assume that automation can be left to deal with the rest of industrial fires."

He said part of the answer to fires may be found in case histories in which automatic controls already have been introduced. He pointed to a high pressure hydrogenation system which has been automatically stabilized by a fully automatic valve operated by a conventional temperature controller.

Hutchinson further called attention to suppressants automatically released in a fine spray on cyclonic separators to avert explosions of nylon dust.

He said it is possible also to install fire suppressant mechanisms which float on the surface of liquid fuel in tanks and which automatically go into operation to damp out fire.

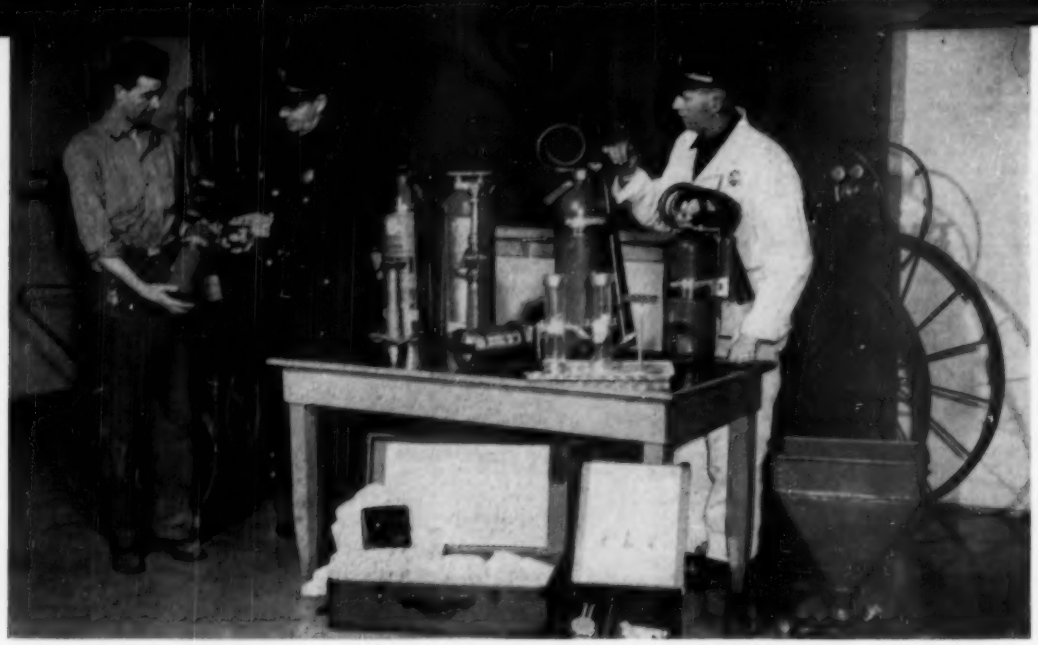
Scanning devices, electric eyes, electrical resistance-detection mechanisms, he said, can safeguard in various installations ranging from gas flame failure to rises in temperature of compressor bearings. He cited other examples of automatic smoke detection, gas analysis, heat and radiation detection.

"Process plants exist today which are completely and fully automatic," Hutchinson said. "They do not require the presence of an operator. Alarms give warning of abnormal operating conditions. All that is required is the next step of fully automatic fire safety.

"What can be described as process fires or fires brought about by some condition of process, should be taken care of in the design by fixed installations, or by automatic fire prevention measures, avoiding the conditions of fire. Each piece of equipment should include its own protection.

"Process fires, however, are not the full picture. We still have with us the accidental fire, the fires brought about by carelessness, the

(Continued on page 82)



FIRE PROTECTION SERIES
other articles Nov. and Dec.

Which Extinguisher?

Experience can be a grim teacher when the lesson is taught by an industrial fire. To help you avoid such an experience, the Fire Equipment Manufacturers' Association offers the following basic information on the selection of fire extinguishers.

All fires are not the same, adequate protection depends on having the right extinguisher at the right place.

Fire's magic number is three: three essentials to start a fire, three basic methods of fire control, three classes of fires and three ways to propel extinguishing agents.

The three essentials of a fire are heat, fuel and oxygen. The principles of fire control lie in the elimination of any or all of these three essential requisites.

Heat is required to raise the temperature of the fuel or combustible material to the point where rapid combustion (i.e., fire) takes place. Heat control, therefore, consists of lowering the temperature of the fuel below the point where combustion takes place.

It is the rapid combination of oxygen with elements in the fuel with the accompanying manifestations of heat and light that we commonly call fire. Usually a concentration of 15 percent oxygen must be maintained for a fire to continue. Oxygen control or elimination is accomplished by smothering.

Fuel control includes any action to make the combustible material noncombustible—either temporarily or permanently.

Fires are classified as types A, B, and C. The three types of fires and their methods of control are:

Class A—Paper, wood, cloth, excelsior, rubbish and similar combustible material containing carbonaceous matter.

Extinguished by lowering the temperature of the fuel with water or water solutions.

Class B—Where the fuel consists of gasoline, oil, grease, paint or similar volatile material.

Controlled through eliminating oxygen by blanketing with a chemical foam, dry chemicals, vaporizing liquids and/or nonburning gases such as carbon dioxide.

Class C—Electrical fires

Non-conducting materials such as carbon dioxide, certain vaporiz-

(Continued on page 85)

HOW TO SELECT A FIRE EXTINGUISHER

	Carbon Dioxide	Dry Chemical	Vaporizing Liquid	Foam	Soda Acid	Water
CLASS A Paper, wood, excelsior, rubber and general combustible fires requiring cooling and quenching.	Small Surface Fires Only	Small Surface Fires Only	Small Surface Fires Only	**YES** Foam clings to vertical surfaces, wets and smothers.	**YES** Soda-Acid is economical protection . . . quenches and cools.	**YES** Water is excellent protection; it cools and quenches.
CLASS B Burning liquids (gasoline, paint, oil, grease, etc.) demand a smothering action for quick extinguishment.	**YES** Has no ill effects on food and leaves no residue.	**YES** Chemical smothers fires	**YES** Vaporizing liquid is converted into a gas —which smothers the fire.	**YES** Heavy foam blanket on surface of burning liquids smothers	**NO** Basic water content will spread liquid fires.	**NO** Water will spread fire, not put it out.
CLASS C Live electrical fires (motors, switches, appliances, etc.). A non-conducting extinguishing agent must be used.	**YES** Carbon dioxide is non-conductor; will not damage costly electrical equipment or leave residue.	**YES** Dry chemical is non-conductor of electricity.	**YES** Liquid is non-conductor, and will not damage equipment.	**NO** Foam is a conductor and should not be used on electrical equipment.	**NO** Should not be used on live electrical equipment; basic water content will conduct.	**NO** Water, a conductor should not be used on live electrical conductor.
UNDERWRITERS' CLASSIFICATIONS	2½ & 5 lb. B-2, C-2 10 lb. B-2, C-1 15 & 20 lb. B-1, C-1 and up	B-1, C-1	1 & 1½ qt., B-2 C-2 1 & 2-gallon, B-2, C-1	A-1, B-1	A-1	A-1
SUBJECT TO FREEZING	No	No	No	No	NO	Yes, unless chemical is added.
EXTINGUISHING AGENT	Carbon Dioxide	Dry Chemical	Heavy vapor formed from liquid by heat.	Foam Bubbles	Soda Solution and Acid	Water
RANGE	5-10 feet	10-25 feet	20-30 feet	25-35 feet	30-40 feet	35-50 feet
EFFECT ON FIRE	Smothers	Smothers	Smothers	Smothers and Cools	Cools and Quenches	Cools and Quenches

IMMEDIATE SHIPMENT!

Now... GREATLY EXPANDED COVERAGE of

Safety and Maintenance Products and Equipment

- listed
- described
- classified
- illustrated

in the

NEW '56-'57

BEST'S SAFETY & MAINTENANCE DIRECTORY

WHAT safety and maintenance products to use...
WHEN to use them...
HOW to use them...
WHERE to buy them...

THE ONLY WORK OF ITS KIND

- COMPLETE
- CONCISE
- ACCURATE
- UNBIASED
- AUTHORITATIVE

ALFRED M. BEST COMPANY INC.
75 FULTON STREET • NEW YORK 38, N. Y.
ATLANTA • BOSTON • CHATTANOOGA • CHICAGO • CINCINNATI • DALLAS • LOS ANGELES

(For details, use Key # W-46 on card on page 47)

Part of the effects of a blast which struck a Philadelphia grain elevator group are visible. Dust combustion was possible cause.

DUST EXPLOSIONS:

Their Characteristics and Venting Requirements

by **HYLTON R. BROWN**
Senior Engineer
U. S. Bureau of Mines
Washington, D. C.

In industries where dust-explosion hazards exist, emphasis is usually placed on explosion prevention instead of the adoption of safeguards designed to provide protection against explosion damage. This practice is, of course, commendable, but in many processes it is not always possible to control completely all conditions that may initiate or contribute to an explosion. In such instances it is well to be familiar with the characteristics of different types of explosions, their behavior and the precautions that can be taken to prevent the building up of destructive pressure during an explosion. For some time attention has been given to venting or the development of means of releasing explosion pressure from equipment or buildings, and experience indicates that in certain types of explosions this method of providing protection can be employed quite effectively. Vents can be used to limit pressures developed by explosions of dusts, vapors, or gases, but they are usually most effective where the rate of pressure rise is relatively low. Ignitions of combustible dusts are generally in this class, and the present discussion will deal primarily with dust explosions.

Recent tables indicate that in the United States alone, the dust-explosion hazard exists in over 30,000 industrial plants, and a tabulation of all the losses attributable to dust explosions in factories in this country since 1860 shows that over 600 lives have been lost and approximately $90,000,000 worth of property has been destroyed. With very few exceptions, any dust that will burn or oxidize readily and is fine enough and dry enough to form a cloud will explode if the concentration is within certain limits and if a source of ignition hot enough to ignite it is present.

Explosive dusts may be classified into three groups: carbonaceous, plastics, and metallic. A recently published estimate indicates that industry develops 10,000 new chemicals annually and a large percentage of those produced or used in powder form, particularly in the plastics field, have been found in laboratory tests to be capable of forming explosive dust and air mixtures.

Explosive Dust & Air Mixtures

Whenever a new product is developed the manufacturer is interested in obtaining information on its behavior under different conditions. If the product is a finely divided powder, or dust is produced in the manufacturing proc-

BE READY FOR
ACTION!
WHEN FIRE STRIKES

CLOSED

The GARDWELL Fire Blanket Container is fast and easy to operate. Use it to smother fires or for first aid cases. Pull the release and the 66" x 84", 4 lb. woolen blanket slides out instantly. The container is painted a bright red and is designed for easy hanging. ASBESTOS BLANKETS ALSO AVAILABLE.

PULL THE RELEASE
—BLANKET DROPS!
YOU'RE READY!

OPEN

HOW TO ORDER

		EACH
1940	— Container and Woolen Blanket	$17.50
1941	— Container and Asbestos Blanket	32.10
40	— 66"x84" Woolen Blanket	8.50
41	— 66"x80" Asbestos Blanket	23.45
19	— Container only	8.65
190DM	— Container — Outdoor Model	9.25

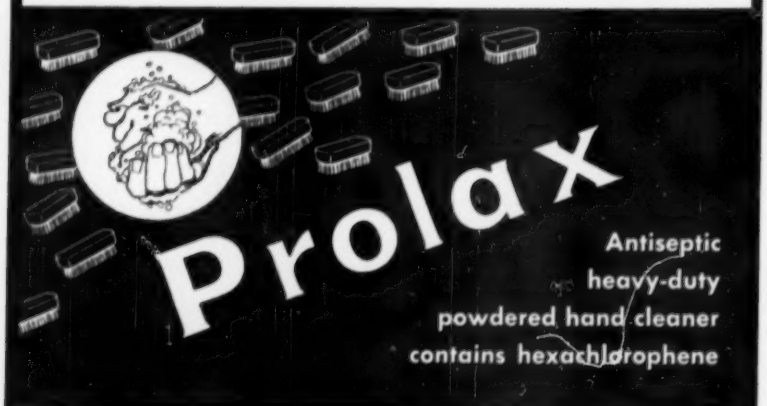
• DEALERSHIPS INVITED •

GARDWELL Products

Safety CLOTHING & EQUIPMENT Co.
1990 EAST 69th ST. • CLEVELAND 3, OHIO

(For details, use Key # W-47 on card on page 47)

Soap and brush action without any brush



Borax scrubber in Prolax powder acts like millions of fine tiny brushes. Makes stubborn grime vanish quickly.

Its hexachlorophene, through regular use, builds an invisible film on the skin that reduces by as much as 95% the resident bacterial population.

Correct for both shop and office; popular with both men and women.

Protect your valued employees from dermatitis with this heavy duty cleanser that is so kind to the skin.

For free sanitary survey of your premises ask your Dolge service man

expendable DOLGE
WESTPORT, CONNECTICUT

(For details, use Key # W-48 on card on page 47)

ess, some effort is usually made to ascertain whether the product is combustible or explosive. Laboratories are available where tests can be made to determine the relative flammability and explosive characteristics of dust samples. Frequently in making such determinations it is enough to know whether the product is more or less hazardous than some other material for which data are already available. In other instances it is necessary, in making an analysis of the explosion hazard, to determine the ease of ignition, minimum explosive concentration, maximum pressure, rates of pressure rise at different concentrations, and oxygen reduction necessary to prevent ignitions.

Some attempts have been made to determine the relative explosibility of different dusts by considering their chemical composition and assuming that complete combustion will occur after ignition. Such computations become quite complicated when it is realized that not only particle size, but uniformity of particle size, and not only concentration, but uniformity of dispersion, are important factors that must be considered. As a rule greater dependence can be placed on actual explosion tests in which the pressures produced can be measured and recorded.

Information on the explosibility of a large number of carbonaceous dusts and powders used in the chemical industry has been published as a result of tests made in laboratories of the U. S. Department of Agriculture and the Bureau of Mines.[1] Additional unpublished information is available as a result of tests conducted with samples submitted to laboratories through insurance organization representatives, state and city officials, safety officers, and others. It is not possible to mention here all of the chemical substances that have been found to be capable of producing explosive dust and air mixtures because the list runs from A to Z—

[1] Technical Bulletin 490, Explosibility of Agricultural and Other Dusts as Indicated by Maximum Pressure and Rates of Pressure Rise, Paul W. Edwards and L. R. Leinbach, U. S. Department of Agriculture. October 1935—24 pp.

Report of Investigations 5052, Laboratory Explosibility Study of American Coals, Irving Hartmann, Murray Jacobson, and R. P. Williams, Bureau of Mines. 1954—8 pp.

Report of Investigations 3751, Inflammability and Explosibility of Powders Used in the Plastics Industry, Irving Hartmann and John Nagy. May 1944—38 pp.

Adipic Acid to Zirconium Hydride.

The severity of the explosion hazard varies considerably. Some dusts and air mixtures following ignition produce relatively low maximum pressures—only 3 or 4 pounds per square inch—while others produce pressures exceeding 100 pounds per square inch. In some instances the rate of pressure rise is comparatively low—only 40 or 50 pounds per square inch per second—while other reactions are very rapid, with rates of pressure rise exceeding 10,000 p.s.i. per second. One sample of diazoaminobenzene when tested in the laboratory equipment at a concentration of 1.0 ounce per cubic foot produced 110 pounds per square inch explosion pressure, with a maximum rate of pressure rise of more than 11,000 p.s.i. per second.

Reactions in Dust Explosions

Physicists have been studying the behavior of dust explosions for many years, but it is not possible to explain all of the reactions that occur. It is comparatively easy to accept the explanation that in explosions of carbonaceous dusts carbon dioxide, carbon monoxide and other gases are being produced during the combustion period and that these gases, which occupy more space than the dust that produces them, plus the expansion caused by the heat of combustion produce the pressure that is evident when such ignitions occur within a closed space.

When explosions of certain other dusts, such as aluminum powder, occur aluminum oxide is formed. This product occupies less space than the powder and oxygen required to form it, and any pressure noted when ignitions occur in a closed space must be due to extremely rapid heating and expansion of the residual gases or some other reaction. Laboratory work has shown that the initiation and progress of a dust explosion are products of many forces and that factors existing at any particular instant can change entirely the nature of that particular flammation. In some laboratory tests with aluminum powder at relatively high concentrations the time-pressure curve shows a very early acceleration to an extreme rate of pressure rise approaching detonation rates. This sharp upturn in the time-pressure curve and the difference in both shape and magnitude indicate the presence of an explosive gas mixture. Both aluminum and magnesium produce this type of time-pressure curve, and since both dusts vaporize readily upon heating it is believed that the explosions, particularly at high concentrations, are ignitions of vapor in air. Explosions of aluminum powder may be flammations of the solid particles at moderate concentrations and flammations of a gas at higher concentrations.

At the other end of the scale are the dusts that do not ignite readily in air, have very slow rates of flame propagation, and produce little or no pressure. Some laboratory tests have been made with such dusts in atmospheres having a greater amount of oxygen than is present in air, and in certain instances relatively high pressure has been developed. Information on

Double duty
Double value

Signals serve safety!

A life saved or an injury prevented will more than pay for a signal or signalling system. Almost all FEDERAL signals for warning will do double duty! Additional utility from such devices is an ever available bonus for your foresight! Lights can be flashed intermittently to attract attention. Horns and bells can be coded to summon personnel. Sirens can be given short test blasts that also serve as start and dismissal signals. FEDERAL offers the widest variety of industrial signals for safety services and most of these can do double or even triple duty without impairing their primary safety function.

Our new bulletin 100 will make you an expert in selecting signals — ask for it today.

Heavy duty Bell

Model "A" Siren

Model 32 Horn

Model 27-S
"Beacon-Ray" light

FEDERAL SIGN and SIGNAL Corporation
8731 S. State Street, Chicago 19, Illinois
(For details, use Key # W-49 on card on page 47)

the explosive characteristics under such conditions is helpful to operators who may be considering blending such dusts with other powders or handling them in the presence of oxidizing agents.

Reducing the Explosion Hazard by Chemical Means

Just as the explosion hazard can be increased by providing more oxygen, the hazard may be reduced by limiting the oxygen available for combustion. Many operators have taken advantage of this fact by introducing carbon dioxide, nitrogen, or other inert gases into enclosed grinding, mixing, and processing apparatus to replace part or all of the air normally present. In some pieces of equipment providing an inert atmosphere is the only way to obtain complete protection against the explosion hazard because explosive concentrations of dusts are always present and metallic sparks, static sparks or frictional heat may be present at any time to cause ignitions. Numerous laboratory tests have been made to determine the oxygen reduction necessary to prevent ignitions of different types of dust. When carbon dioxide or nitrogen is used to create the inert atmosphere a reduction of the oxygen to 12 or 14 percent is usually enough to prevent explosions of carbonaceous dusts caused by ordinary sources of ignition. For some other types of dust it may be necessary to reduce the oxygen to 2 or 3 percent; and in extreme cases, where the dust, such as magnesium, will burn in carbon dioxide and combine with nitrogen to form nitrides, it is necessary to use helium or argon to create the inert atmosphere. The oxygen reductions recommended for a number of dusts are given in a code covering the use of inert gas for preventing explosions.[2]

It is sometimes possible to use incombustible materials instead of inert gas to reduce or eliminate a dust-explosion hazard. In the classification of explosive dust the relative flammability is usually given as a percentage figure, such as 60, 80, 90+, indicating the amount of incombustible dust that must be added to the explosive dust to prevent ignition and flame propagation through a dust and air mixture. Calcium carbonate, diatomaceous earth, and similar materials are sometimes used as diluents to reduce the concentration of an explosive dust below its lower explosive limit. The use of this method of explosion prevention is quite limited because in industries such as flour milling, starch grinding, confectionery manufacture and other food or feed-preparation plants the addition of material such as those mentioned would be considered an adulteration and violation of regulations and laws governing pure foods and feeding stuffs. The principal field in which an incombustible dust can be used for explosion prevention is in grinding or processing a dust or powder that later will be blended with other materials some of which are incombustible. Where the process can be rearranged to permit grind-

[2] Code for the Use of Inert Gas for Fire and Explosion Prevention, N.F.P.A. No. 69 (Formerly No. 12A) 8 pp. 1941. Tentative standards for Fire and Explosion Prevention by Inerting, N.F.P.A. No. 69-P 42 pp., 1955. National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass.

YOU
NAME
THE JOB
WE
HAVE THE GLOVE!
. . . AND WE'LL HAVE HUNDREDS OF STYLES TO SHOW YOU AT THE OCT. SAFETY SHOW IN CHICAGO!
SEE US AT BOOTH 304
SEE FIRST HAND WHY DAVID'S IS THE GOLIATH OF THE WORK GLOVE FIELD
DAVID'S GLOVES Inc
SPRINGFIELD, OHIO
(For details, use Key # W-50 on card on page 47)

BIL-JAX
Tubular Steel
WORK PLATFORMS
Maintenance Trestle
All-purpose Scaffold
Rolling and Stationary Scaffolds
Let Bil-Jax solve your "off-the-floor" job problems. Equipment of light-weight tubular steel is designed to give maximum access with minimum investment . . . in complete safety. Platforms and scaffolds for every purpose. Send for facts on complete Bil-Jax line.
SALES AND RENTAL OUTLETS IN PRINCIPAL CITIES
EXPORT REP.:
MELVIN PINE & CO.
80 Broad St., New York 4, N.Y.
WEST COAST REP.:
A. PALMER SCAFFOLD CO.
3978 San Fernando Road
Glendale 4, California
Send for facts on complete Bil-Jax line.
BIL-JAX, INC. ARCHBOLD, OHIO
SCAFFOLDING • TRESTLES • HOIST TOWERS • STAGES
(For details, use Key # W-51 on card on page 47)

"Common industrial dust" magnified 15 times. Photomicrograph by University of Minnesota.

but TORIT traps it

Skin irritation is the most widespread of all occupational diseases, and ordinary industrial dust is a common cause. Even inert dusts encourage disease—by creating skin lesions. But Torit dust collectors give you control over dust at its point of origin. Unitized for portability—you are not limited by a central built-into-the-building dust control system. Many models and sizes. See Sweet's Machine Tool File or write today. *Priced from $190.00.*

TORIT MANUFACTURING CO.

DEPT. 909 311 Walnut Street, St. Paul 2, Minn.

(Use Key # W-52 on Inquiry Card on page 47)

MORE WEAR PER PAIR

IN THESE TYPICAL CASE HISTORIES

Hundreds of case histories such as these testify to Sureseal's superiority for all kinds of jobs . . . save many dollars for glove users everywhere.

HANDLING HUBS AFTER MACHINING OPERATION

Sharp parts handled in this operation are covered with soluble oil—but Sureseal withstands the rough wear plus the required frequent cleaning for sanitation.

HANDLING WET GOATSKINS AFTER LIME TREATMENT

Previously men were obliged to wear canvas gloves over rubber—both clumsy and expensive. Now, Sureseal gloves alone make handling easier and faster, with more safety.

MAY WE HELP YOU

Tell us your needs. We'll submit recommendations and samples for test.

THE SURETY RUBBER CO.
Carrollton, Ohio

In Canada: Safety Supply Co., Toronto

(For details, use Key # W-53 on card on page 47)

ing or processing the combustible and incombustible dusts together it is sometimes possible to eliminate or greatly reduce the dust-explosion hazard.

Finely divided limestone has been used for many years for rock-dusting coal mines. This operation, which consists of blowing the inert dust onto the roof, sidewalls, and other areas of a mine, is designed to provide a sufficient quantity of the diluent to keep the coal dust below its lower explosive limits if any dust clouds are formed. Irving Hartmann has found in his experiments in the Bureau of Mines laboratories at Pittsburgh that many chemical compounds may be better suppressors of coal-dust explosions than limestone. These include sodium and potassium halides, sodium bicarbonate, calcium sulfate, sodium sulfate, various oxidizers and other compounds, halides, fluorides, iodines, bromides, and chlorides. None of the materials mentioned is normally as readily available or obtainable as limestone dust for use in coal mines, but all may be available as products, by-products or waste products at chemical plants and could be used as diluents where deposits or accumulations of explosive dusts may occur.

An allied field of interest in this phase of the subject deals with the development of dusts, powders, or dry chemical compounds that will serve as fire extinguishers. As a rule, such developments are applicable only to fire extinguishing and cannot be used to stop an explosion after flame propagation has begun. There are a few limited applications, however, where an inert dust can be introduced into a small duct line to check an explosion, and some attempts have been made to utilize the initial pressure of an explosion to check propagation by dispersing inert dust clouds ahead of the flame wave. Such forms of protection are usually highly specialized applications developed by engineers familiar with the behavior of certain types of explosions.

The Dust Explosion Hazards Committee of the National Fire Protection Association has prepared a number of codes or standards with specific recommendations for explosion prevention or protection in different types of industry. There is also a publication of the N.F.P.A.,[3] "Fundamental Principles for the Prevention of Dust Explosions in Industrial Plants," that contains general recommendations for those plants for which no specific codes are available. Operators of plants producing or handling explosive dusts should follow these recommendations wherever possible, and in cases where compliance does not seem to be practicable engineers familiar with dust-explosion problems should be consulted. If there is any question about the explosibility of the dust or product being manufactured arrangements should be made to have samples tested to determine the flammable properties and explosive characteristics.

It is usually safe to assume that all recognized explosion prevention and protection measures should be adopted wherever explosive dusts

[3] National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass. Pamphlet No. 65—8 pp. 1948.

are produced or handled, but each operation or process should be given special consideration. In some instances where only minor initial ignition hazards are present careful operation and good housekeeping to prevent flame propagation beyond the original ignition area may be all the protection needed. In other instances complete protection in the form of inert atmospheres, batch or other forms of controlled production, segregated or remotely controlled equipment, and automatic explosion vents may be necessary to provide the desired protection for personnel and property.

Venting

Although the dust-explosion-prevention codes or standards stress the advantages of preventing the formation of dust clouds and eliminating sources of ignition, virtually all of them recommend the installation of vents to provide protection through the release of explosion pressure at locations where it is difficult or impossible to be certain that the measures adopted for explosion prevention will be 100 percent effective.

Essentially, explosion vents are openings or weak sections in equipment enclosures or the walls of rooms or buildings designed to fail under explosion pressure before such pressure becomes high enough to cause structural damage. Certain factors govern the design of vents, and the installation of such equipment is a specialized job that should be entrusted to someone familiar with all factors involved. It may be well, however, for plant operators to be familiar with the fundamental principles of explosion-pressure release and some of the devices that have been developed to provide this form of protection.

The factors of prime importance that should be considered in providing for explosion venting, as listed in the "Explosion Venting Guide" [4] are:

a. Strength of the structure or enclosure.

b. The maximum explosion pressure and the average rate of pressure rise of the explosive material.

c. The positions of the vents with respect to the point of origin of the explosion.

d. Bursting strength of the vent closure or the minimum pressure required to open the vent closure if movable as a whole.

e. The inertia of the vent closure.

Open or Unobstructed Vents

Obviously the most effective vent for releasing explosion pressure from equipment, enclosures, or buildings is an unobstructed opening, but there are comparatively few operations with inherent explosion hazards that can be conducted in open equipment installed in buildings without walls. Usually some form of vent closure must be provided to protect against the weather, conserve heat, bar unauthorized entry, preclude dissemination of the material being processed, or prevent contamination of the product by the entrance of dirt or moisture from outside.

[4] Guide for Explosion Venting, N.F.P.A. Pamphlet No. 68, 1954, obtainable from the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass.

NEW 99.99% ACTIVE MATERIAL PROVIDES SAFE ICE CONTROL

SPECO, INC. has introduced a new chloride-free ice and snow melting material in prismoid form that is harmless to pavements, metals and vegetation. Known as ICE REM-CF, it is 99.99% chemically active and contains neither calcium nor chlorides.

Unlike ordinary ice and snow melting chemicals, CF does not produce a heat effect as part of its melting process. This feature makes it ideal for application on cement, concrete and asphalt. In addition, it will not corrode aluminum and other metals.

According to the manufacturer, ICE REM-CF thaws ice and snow quickly on steps, walks, loading platforms, streets, airport runways, railway switches, gutters and drains. As it produces a combined melting and abrasive action, it is recommended for use in street car, bus and truck sand boxes and under spinning automobile wheels.

Because its molecular structure has a greater depressing point on ice than salt, ICE REM-CF has substantially more thawing capacity at lower temperatures and in the sub-zero range. It leaves no messy residue and is non-hygroscopic (won't absorb moisture from the air). Consequently, it is cleaner to use and simpler to store than chloride-type products.

CF is a companion product of regular ICE REM, which has been marketed by Speco, Inc. for the past 10 years and is claimed to have been the first ice and snow-melting pellet sold commercially. Available for shipment in hopper cars or dump trucks plus 100, 200, 300 and 500-lb. fiber drums. Ton lots are packaged in 100-lb. I.C.C. approved shipping bags.

SPECO, INC., CLEVELAND 9, OHIO

(For details, use Key # W-55 on card on page 47)

Powdered Soap

Liquid Soap

EVERY TYPE OF SKIN CLEANSER

Bar Soap

Lightfoot

manufactures all three from raw material to finished product!

A Specialized Soap to Meet Every Type of Plant Requirement!

Whether for light, heavy or extra heavy duty, for general plant or office use, or to solve specific cleansing problems, our more than 40 years of experience in serving industry is at your service. *Your inquiries will receive prompt and intelligent attention!*

LIGHTFOOT SCHULTZ COMPANY

380 MADISON AVENUE NEW YORK 17, N. Y.

(For details, use Key # W-54 on card on page 47)

GETS-A-LITE GUARD and GUIDE

Quickly and Easily Installed by Anyone — No Tools Needed!

- Simply slip GETS-A-LITE GUARD AND GUIDE over the fixture, as illustrated.
- Made of indestructible spring steel wire. Nothing to break, get out of order or replace. Will last indefinitely.
- Once installed, GETS-A-LITE GUARD AND GUIDE is NEVER removed.
- Nothing to unlock, fuss with or lock, when changing lamps.
- GETS-A-LITE GUARD AND GUIDE actually steers lamp into socket, enabling maintenance man to change lamp in 10 seconds!
- Available for 40 watt and 100 watt fluorescent lamps.

GETS-A-LITE Company—Dept. SM-106

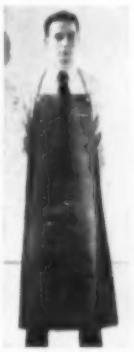
3865 N. Milwaukee Ave., Chicago 41, Illinois

(For details, use Key # W-56 on card on page 47)

THE "VEKI" SAFETY CAP

Designed for Greater Industrial Safety

"Veki's" larger, roomier, elastic-type snood encloses more hair than any conventional type cap. Protects all hair all the time! Front of Twill; Back is made of mesh. Also in solid or flameproof materials. Navy blue or brown. Other colors on request. Adjusts to all head sizes. 11 styles. Descriptive literature on request.



FLAME RESISTANT THE *NEW* NEOPRENE APRON

Protects workers against hazards of fire, acids, caustics, oil, etc. Prevents loss of man hours. Save a life. Resists heat. Absolute safety when working with combustibles, liquids, or sparks.

SPECIAL CLOTHING MADE TO YOUR SPECIFICATIONS

Complete line. Manufacturers of Leather Aprons, Chem-Tex, Plastic Aprons, and Sleeves. Fire Resistant Duck and Asbestos Aprons, Asbestos and other Fire-proof Welding Curtains.

Write Dept. C-65 for complete information.

"We are not too Big to consider your Small problems nor too Small to consider your Big problems."

V. E. KENNEDY–INGALLS CO.

3735 NORTH 35TH STREET
MILWAUKEE 16, WISCONSIN

(For details, use Key # W-57 on card on page 47)

Open equipment is recommended wherever it can be used without creating a more serious explosion hazard through dispersion or dissemination of the material being processed and where it is unnecessary to provide closed equipment to prevent contamination of the material.

Weather conditions and the need to prevent unauthorized entry are usually the controlling factors governing the use of buildings without walls or with large apertures. In warm climates where building walls are not necessary to meet heating requirements, large, overhanging eaves can be provided to keep rain from entering the open sections of the building, and unauthorized entry can be prevented by locating processes that require open-wall venting on upper floors of the building.

Louvers: Although openings in which louvers are installed cannot be considered completely unobstructed vents, such installations provide a large percentage of free space for releasing explosion pressure and have served effectively as vents in a number of instances when explosions occurred in industrial plants. They are recommended especially as wall vents where windows are not needed and where tight walls are not required to maintain controlled atmospheric conditions within the enclosure. Louvers can be used effectively as vents where it is necessary or desirable to prevent unauthorized entry or egress.

Hangar-type Doors: Large hangar-type or steel curtain doors installed in side walls of rooms or buildings can be opened to provide unobstructed vents during the operation of any process or equipment in which there is an inherent explosion hazard. Such doors can be closed to prevent unauthorized entry when the equipment is unattended or not in operation. This type of venting has been found to be effective and is highly recommended, but in cold climates supervisory control is sometimes necessary to insure that employees do not sacrifice safety for comfort by keeping the doors closed during operations.

Open Roof Vents: Large roof openings protected by weather hoods can be provided on one-story buildings or the top story of a multiple-story building to serve as explosion vents. This type of venting can be very effective, particularly where there is a possibility that lighter-than-air gases may escape from some processing equipment and create an explosion hazard near the ceiling of an enclosure. In addition to serving as vents for the release of pressures should an explosion occur, such roof openings reduce the possibility of an explosion by providing a channel through which the gas can escape from the building. Roof openings permit large quantities of warm air to escape during the normal operations and for this reason are not extensively used in cold climates. All types of weather hoods reduce the effectiveness of such vents, and hoods should be as light as possible and attached in a manner that will permit them to be blown away quickly if an explosion occurs.

Closures for building vents are necessary in air-conditioning plants or where heat is provided for the comfort of occupants during all or part of the year, and vent closures are required on processing equipment whenever it is necessary to provide for the retention of dust

SOLVE YOUR PLANT SMOKING PROBLEMS
with SIPCO dunking stations
CIGARETTES, CIGARS, MATCHES IMMEDIATELY EXTINGUISHED
Like 60% of the leading U.S. industries, you, too, will find that safe and economical SIPCO Dunking Stations prevent fires — promote good housekeeping on the job. No smoldering — no fire hazards! Built specifically for hard industrial use, and abuse, and will last a lifetime.
SMOKERS
GOOD HOUSEKEEPING PREVENTS FIRES PUT 'EM HERE!
UNIT No. 1 — Heavy cast aluminum canister, attractive metal sign, upright heavy weighted base. 42" high, wt. 25 lbs.
UNIT No. 2 — Same as above except without upright and base. For mounting on walls, columns and posts, wt. 5 lbs.
UNIT No. 3 — Canister alone with mounting bracket.
WRITE FOR ILLUSTRATED FOLDER
SIPCO STANDARD INDUSTRIAL PRODUCTS CO.
DEPT C • 920 N. GARFIELD AVE. • PEORIA, ILLINOIS
(For details, use Key # W-58 on card on page 47)

APPROVED SAFETY
guards for all
DANGEROUS MACHINES
•
DUST COLLECTORS
for all dusts
PREVENTS FIRES
•
ILLUMINATED MAGNIFIERS
for inspection
•
THE
SURTY MFG. CO.
INC.
4139 W. Kinzie Street
CHICAGO, 24
Nevada 8-4000
We Welcome a
Visit to our Booth #131 at the
NATIONAL SAFETY CONGRESS
Oct. 22–26
Conrad Hilton Hotel

• details, use Key # W-59 on card on page 47)

or gas or where processes are conducted under pressure, vacuum, or other controlled conditions.

Some types of vent closures are commercially available and may be purchased ready to install in buildings or equipment. Other types have been developed by plant engineers or maintenance men.

Doors, windows, skylights or monitors, roof or wall panels, and numerous types of diaphragms of plastic, foil, cloth, paper, etc., have been used successfully as vent closures. It is not possible to describe all of these devices here or to recommend any particular type. Equipment can be selected or designed to meet specific needs, remembering always that the fundamental principle in the design or selection of any vent closure is that it will open quickly and automatically under increased pressure from within to provide a channel through which an explosion can be released without damage to either building or equipment.

From an address presented at the 43rd National Safety Congress.
Picture by courtesy of "The Philadelphia Inquirer."

Brush Fires

"Equipment and Organization for Fighting Forest, Grass and Brush Fires," an informative guide for communities and other organizations concerned with forest, grass and brush fire control, has just been published by the National Fire Protection Association.

The 80-page booklet (NFPA No. 295M) is illustrated and was prepared by the NFPA's Forest Committee in cooperation with the Forest and Range Fire Protection organizations of the United States and Canada.

The text is divided into six chapters which cover: background to community equipment needs; hand tools for fire fighting; powered fire fighting equipment; power pumping equipment and hose; chemicals; housing and care of equipment. In addition, the booklet contains a detailed reference list of those publications which will assist fire departments and others in the purchase of equipment.

Copies of the booklet are available from the NFPA Publications Department, 60 Batterymarch Street, Boston, at $1.00 per copy.

Fire Front

(from page 71)

fires brought about by lack of adequate precautions, the fires brought about in effect by the 'human element.'

"Can these fires be dealt with by automatic means? The answer in some cases is 'yes' but very largely this type of fire will have to be dealt with by the firemen and this point stresses again the need for the continued training of all industrial personnel to be fire conscious. Fires caused largely by the human element can only be adequately dealt with by a complete change of mind on the part of the people who cause them.

"If accidental fires can be eliminated by a different approach it is safe to assume that the rest of industrial fires can be left to automation."

inside the trade

ANSUL CHEMICAL CO. has purchased the building of the Marinette Glove Company in Marinette, Wisc., for additional manufacturing and office facilities. The new building will add another 11,000 square feet of floor space.

The name of *GENERAL ELECTRIC's Trumbull Components Department* has been changed to the *Circuit Protective Devices Department*, according to an announcement by Mr. L. E. Walkley, Department General Manager.

The name "Circuit Protective Devices" was selected as the most descriptive of the kinds of products that this G-E component manufactures for low-voltage electrical distribution systems: circuit breakers, safety switches, panelboard and switchboard components, disconnect switches, open knife switches, and service entrance equipment.

SEARJEANT METAL PRODUCTS, INC., of Mendon, N. Y., has announced the formation of a new Industrial Safety Supplies Division. The new sales organization will serve the Rochester area with a complete line of industrial safety equipment, according to *Robert L. Searjeant*, Sales Manager. In addition to the power press safety guards, controls and accessories manufactured by the company itself, the safety supplies division will handle: goggles and protective clothing, fire equipment, first aid supplies, dust collectors, ladders, safety cans, etc.

C. E. Dennis

WELSH MANUFACTURING CO., of Providence, R. I., announces the appointment of *Carlton E. (Charlie) Dennis* to handle Mid-Western sales. Prior to joining Welsh, Mr. Dennis was sales manager of Sellstrom Mfg. Co. He is widely known in the industrial safety field having started his career in the welding supply business and having been associated with welding and safety equipment during his entire twenty year business career.

The *retirement* of *Karl P. Herbruck*, vice-president and general manager of *THE WILSON RUBBER CO.* of Canton, Ohio, became effective September 1, climaxing 34 years of continuous service with one of the world's largest manufacturers of rubber gloves.

Shortly after the incorporation of The Wilson Rubber Co. in 1916, Herbruck joined the firm as treasurer and assistant general manager. In 1944, he was appointed vice-president and assistant general manager, and he continued in that office in the expansion reorganization of the firm as a division of Becton, Dickinson and Company (Rutherford, N. J.). He has been a director of the Wilson firm for 30 years and will continue to serve as a director and consultant.

Construction of the new location for San Francisco's *E. D. BULLARD COMPANY* in Sausalito, California, 12 miles from the present site has begun. Removal to the new facilities will be accomplished before the first of the year.

The Bullard Co. has also announced the appointment of three District Managers:

Herbert Raschke, until recently an engineer for Universal Safety Equipment Company in Chicago, has been appointed Mid-West District Sales Manager. His territory includes Illinois, Wisconsin, Minnesota, North and South Dakota, Nebraska, Iowa, Missouri, Kentucky and Indiana.

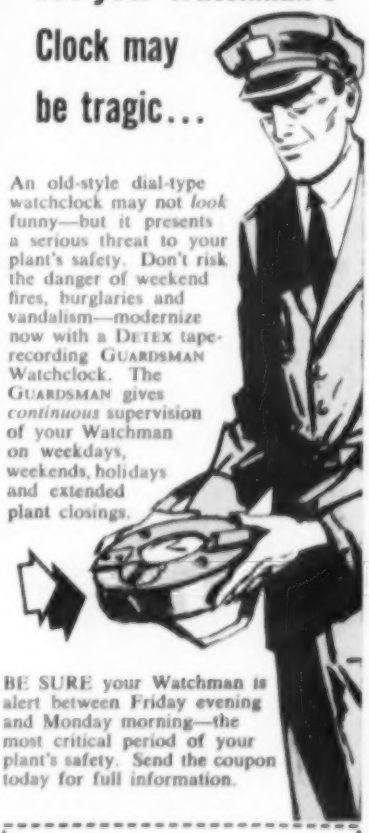
Norris Seastrom, San Francisco Sales Manager, was appointed as North West District Sales Manager. His territory includes Washington, Oregon, British Columbia, Wyoming, Utah, Idaho and Colorado.

Edward J. Illes, formerly Assistant Manager of the Los Angeles office is now South West District Sales Manager. His territory includes New Mexico, Arizona, Texas, Oklahoma and Kansas. Mr. Illes has been employed by the Bullard Company for ten years.

Incorporation and expansion of *INDUSTRIAL SANITATION COUNSELORS*, Louisville, Kentucky, is announced by Mohe H. Solworth. The firm is a management consultant company specializing in setting up efficient cleaning programs for business, industrial and public buildings. The new organization will consist of a parent corporation—Industrial Sanitation Counselors—and three subsidiary corporations, Industrial Sanitation Counselors of Louisville, Industrial Sanitation Counselors of New York, and Industrial

FUNNY?

but your Watchman's Clock may be tragic...



An old-style dial-type watchclock may not *look* funny—but it presents a serious threat to your plant's safety. Don't risk the danger of weekend fires, burglaries and vandalism—modernize now with a DETEX tape-recording GUARDSMAN Watchclock. The GUARDSMAN gives *continuous* supervision of your Watchman on weekdays, weekends, holidays and extended plant closings.

BE SURE your Watchman is alert between Friday evening and Monday morning—the most critical period of your plant's safety. Send the coupon today for full information.

Detex Watchclock Corp.
76 Varick Street Dept. SM-10
New York 13, N. Y.

☐ Please send me complete information about the GUARDSMAN tape-recording watchclock.

☐ You may send a DETEX representative to make a free, no-obligation survey of our plant protection needs.

Name_____

Company_____

Address_____

_____ Title_____

(Use Key # W-60 on Inquiry Card on page 47)

"Common industrial dust" magnified 85 times. Photomicrograph by University of Minnesota

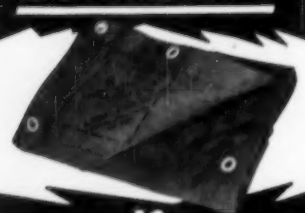
TORIT traps it

A close look at the most "ordinary" industrial dust shows why it irritates the respiratory tract, nasal mucosa, throat and trachea. In fact, *all* dusts are capable of causing respiratory distress. But Torit dust collectors give you control at its point of origin. Unitized for portability—you are not limited by a central built-into-the-building dust control system. Many models and sizes. See Sweet's Machine Tool File or write today

TORIT MANUFACTURING CO.
DEPT. 907 311 Walnut Street, St. Paul 2, Minn.

(Use Key # W-61 on Inquiry Card on page 47)

CONFINE YOUR DANGER!



USE *Reeves* FIRE CHIEF TREATED WELDING CURTAINS

- close woven canvas
- weighs 10 ounces per square yard before treatment
- impregnated with Hooper's Fire Chief treatment under their patent
- Underwriters Laboratory approved

The perfect protective curtain for all your dangerous work.

A. SMITH & SON, INC.
"IF IT'S MADE OF CANVAS, WE MAKE IT"
Green & Ridge Ave. Philadelphia 23, Pa.

(Use Key # W-62 on Inquiry Card on page 47)

Sanitation Research, Inc. The home office will continue in Louisville, with Arthur Sydney in charge. Oliver Snyder will be in charge of the New York office.

Appointment of *Ellis F. Farrell* as assistant general manager of paint sales for the merchandising division of *PITTSBURGH PLATE GLASS CO.* has been announced by Guy Berghoff, general manager of paint sales. Mr. Farrell succeeds Richard P. Bell who has been appointed assistant to the president. Prior to his appointment Mr. Farrell served as manager of the Syracuse, New York, distributing branch during the past three years. He joined the company in 1938 as a territorial salesman.

GENERAL SCIENTIFIC EQUIPMENT CO., manufacturers and distributors of industrial safety equipment, have expanded their manufacturing and warehousing facilities through removal to new and larger quarters. The company's new plant and offices are located at 7516 Limekiln Pike, Philadelphia 50, Pa.

Improved facilities at the new building have produced a more efficient system of processing orders and have permitted the addition of many new items to the company's line of industrial safety equipment.

THE PYRENE C-O-TWO CORP. of Newark, N. J., recently acquired by The Fyr-Fyter Co. of Dayton, Ohio, will be headed by *James J. Dunleavy*, Vice President and General Manager of Fyr-Fyter's Wooster Brass Division for the past four years, according to announcement made by *Wm. M. Wetzel*, Chairman of the Board of The Fyr-Fyter Company.

The Pyrene C-O-Two Corporation, he also announced, will henceforth be operated as "divisions" of The Fyr-Fyter Company: the *Pyrene C-O-Two Portable Division* and the *C-O-Two Systems Division*. The former will manufacture and sell the complete line of portable fire extinguishers, wheeled engines, and portable CO_2 extinguishers. The Systems Division will continue to manufacture and sell all of the many different types of carbon dioxide and foam systems equipment.

Mr. Dunleavy, Vice President and General Manager of both of the new divisions, has served Mr. Wetzel in an administrative capacity for the past thirty years. He organized Fyr-Fyter's first branch office and warehouse in New York City in 1949.

Assisting Mr. Dunleavy is *Charles S. Duncan*, Vice President and Assistant General Manager, who had been a member of the CO_2 fire equipment company since 1933.

Vice President and Sales Manager of the new Pyrene C-O-Two Portable Division will be *Wm. E. Tromanhauser*, who formerly served as President of the Buffalo Fire Appliance Corporation.

The new C-O-Two Systems Division will be headed by *C. T. DuBreuil* as Vice President and Manager. He had served as Assistant Vice President and Chief Engineer of Fyr-Fyter's Wooster Brass Division under Mr. Dunleavy.

Sales Manager for the C-O-Two Systems Division will be *Burr Williamson* who joined Pyrene C-O-Two in 1948 as a research and development engineer. He had been promoted as Engineering Assistant to the General Sales Manager last year.

Vice President and Chief Engineer for both the Divisions will be *Frank B. Allen*, who joined Pyrene C-O-Two in that same capacity in 1935. *Ralph F. Batch* who has also been associated with Pyrene C-O-Two for a number of years, has been named Vice President in Charge of Production.

The opening of a new factory branch office at 550 Grant St., Pittsburgh, has been announced by *ELECTRONICS CORPORATION OF AMERICA, Combustion Control Division*, Cambridge, Mass. *Walter L. Brink* has been named as sales engineer to direct the operation, which is a branch of the Cleveland area office. He will cover Western Pennsylvania, West Virginia, and Garrett and Allegheny Counties in Maryland.

Stanley F. Peschken, of Minneapolis, has been named West Northcentral area representative for the industrial products division of *THE PIONEER RUBBER CO.*, Willard, Ohio. Mr. Peschken is a life-long resident of Minnesota and has traveled extensively in a merchandising and buying capacity throughout the Minnesota, North Dakota, South Dakota and Western Wisconsin area.

AMERICAN OPTICAL COMPANY has announced that *Robert J. Davis*, Vice President for International Operations, has taken over the responsibilities of the Vice President for Marketing in addition to his own.

The assignment follows the sudden death on July 12 of Forrest I. Fraser. Mr. Davis had wide experience in marketing for other firms before taking over administration of AO's international operations last year. He will continue to direct the international operations from offices in Rockefeller Center in New York.

Shown here is the new plant of the *JUNKIN SAFETY APPLIANCE CO., INC.*, manufacturer of power press guards, grinding wheel shields, and stretcher equipment. Located at 3121 Millers Lane in suburban Louisville, the new plant more than doubles the former work and storage areas. The Junkin Company will celebrate its Silver Anniversary to the safety equipment field in 1957.

Safety Appointments

One hundred-and-two-year-old W. R. Grace & Co. which has diversified industrial operations in the United States, Latin America, Canada, Europe and Australia has inaugurated its first company-wide safety campaign designed to coordinate safety activities previously carried on independently by its divisions and subsidiaries.

Felix E. Larkin, Vice President in charge of Industrial Relations has named A. B. Pettit as Director of Industrial Health and Safety. Mr. Pettit was formerly Health and Safety Administrator for the company's Davison Chemical Company Division which has been awarded five National Safety Council awards of honor in the last six years under his guidance.

An industrial safety expert of broad experience, Mr. Pettit has frequently been called upon to participate in the investigation of many serious accidents, fires and explosions, the most widely known of which was the Texas City disaster.

The safety program was launched with a two-day safety conference attended by 41 representatives from all Grace divisions. Under the direction of Mr. Pettit the conference formulated plans for coordinating all safety programs and for the adoption of improved techniques and methods on a company-wide basis.

Which Extinguisher

(from page 72)

ing liquids and/or dry chemicals must be used to control the fire by cutting off the oxygen supply.

There are three basic methods of propelling extinguishing agents from portable extinguishers. They are:

1. Stored pressure methods using carbon dioxide or nitrogen cartridges or stored air pressure.

2. Internal chemically generated pressure methods. The soda-acid extinguisher which generates carbon dioxide gas is a familiar example of this type.

3. Hand generated pressure. This method is employed on vaporizing liquid types of water pump tanks.

All of these factors influence the selection and use of extinguishers.

To have the right extinguishers available when needed, consider all of these factors when selecting new extinguishers or when making a safety survey of present equipment. The selection chart on page 73, prepared by the Fire Equipment Manufacturers Association, gives additional details on the uses and suitability of the various types of fire extinguishers.

STOP
FUMES
at their
source
You'll find Ruemelin Fume Collectors ideal for stopping noxious welding fumes at their source. Counter-balanced inlet hood stays in working area, automatically. Improves working conditions . . . lessens fatigue . . . paves the way for increased plant production. Thousands in everyday service. Write for Fume Collector Bulletin No. 378.
(Left) "Illustrating the 15 ft. reach collector. Handles large or small work. Units available with 9 ft., 15 ft., 17 ft. and 20 ft. reach."

RUEMELIN MFG. CO.

MFRS. & ENGRS. • SAND BLAST & DUST COLLECTING EQUIPMENT
3892 NORTH PALMER STREET • MILWAUKEE 13, WISCONSIN, U. S. A.

(For details, use Key # W-63 on card on page 47)

Protect Your FEET

Keep the Heat Off your Feet

with

Reece Wood Soles

They Insulate

They're Punctureproof

No. 504-S—Heatproof
No. 501-S—Waterproof
No. 7704-S—Acidproof

REECE INVITES YOU TO BOOTH 115.
SHOES AND SANDALS FOR THE JOB.

SAVE MAN HOURS

REECE WOODEN SOLE SHOE CO.

There is no substitute for Reece Wooden Soles

SM&P 10-56 COLUMBUS, NEBRASKA

(For details, use Key # W-64 on card on page 47)

BABCOCK

Ladders

DESIGNED for SAFETY

Extensions
Singles
Stepladders

Built for safety and service. Industrial ladders of *Top-Quality* material and workmanship.

Underwriter's Approved

BE SURE BE SAFE BUY BABCOCK

The W. W. BABCOCK CO., Inc. · BATH, N. Y.

(For details, use Key # W-65 on card on page 47)

New "Hot 'N Cold" Stanzoil PACEMAKER

No. 225

Features two 8 oz. shells with face-to-face napping for extreme insulation, coated with oil, acid, caustic and solvent resistant neoprene. Inner lining double napped and bar tacked at finger tips. Non-ravel lock stitch binding on gauntlet. *PIONEER will help you select the right glove for your job from the complete PIONEER line.*

The PIONEER Rubber Co.
Attn: Hand Protection Clinic
244 Tiffin Road
Willard, Ohio, U.S.A.

Please send me:

- ☐ The name of my nearest PIONEER Glove Distributor.
- ☐ 1956-57 PIONEER Industrial Glove Catalog.
- ☐ Your glove recommendation for job described in enclosed letter.

Firm _____

Address _____

City _____ Zone ____ State _____

Signed _____

(For details, use Key # W-66 on card on page 47)

First Aid Procedures *(from page 59)*

Heat Cramps: These are caused by loss of salt with prolonged heavy sweating. Severe pains may occur in the abdomen or limbs. Manual pressure on the cramped muscle gives some immediate relief. Treat as for heat exhaustion. Prevent occurrence of heat cramps by use of salt tablets with drinking water during the day.

Heat Exhaustion: Symptoms are dizziness, nausea and vomiting, pale face, clammy perspiration, weakness and slow pulse. The person looks like one who has fainted, and should be treated similarly:

a. Give plenty of fresh air.

b. Have patient lie down in cool place with head lowered, loosen clothing.

c. Give aromatic spirits of ammonia (one teaspoonful to one-half glass of warm water) if conscious. Do not force anything into mouth of an unconscious patient. He may choke to death.

d. Call physician if symptoms do not quickly disappear.

Heat Stroke or Sun Stroke: Symptoms and signs are pain in head, dizziness, dryness of mouth, hot dry skin, flushed face, rapid pulse, and fever. Patient may be unconscious. Treatment is as follows:

a. Remove to a cool place.

b. Lay patient on back with raised head.

c. Have physician called.

d. Apply cold compresses to the head.

e. Cool body with wet sheets, fan or cold water. Give no stimulants.

Dermatitis: Most skin diseases occurring in industrial employment are true contact dermatoses; however, not all eruptions arising in workers result from the employment. Many cases are caused by substances contacted outside of working hours. In cases of skin disease that are suspicious of being contact in origin, arrangements should be made for prompt examination by the physician.

The treatment of non-occupational skin disease is not the function of an industrial medical department. Any therapy by the nurse of occupationally incurred skin disease and injuries should be limited to the carrying out of instructions by the physician.

Minor skin injuries should be treated promptly and adequately to prevent subsequent infection. The use of sulfonamides, penicillin, and the local anesthetics should be avoided in order to prevent contact dermatitis produced by over-zealous treatment.

From an address presented at the 43rd National Safety Congress. Picture by Three Lions.

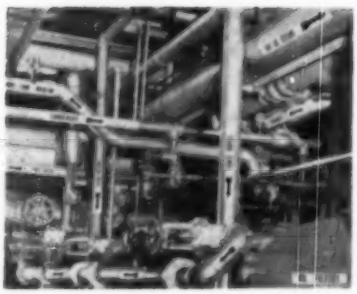
THE
Safest Maintenance Scaffold
is made with
AMIDON FITTINGS
AND STANDARD ONE INCH PIPE
Adjustable to all conditions
AMIDON ENGINEERING CO. ELYRIA 18, OHIO

(For details, use Key # W-71 on card on page 47)

Material appearing in this section is published as information and is not intended to imply endorsement or guarantee by SAFETY MAINTENANCE.

To obtain descriptive literature of products listed, use Reader's Inquiry Card. Write in code number given each item. Send written requests to: Service Dept., SAFETY MAINTENANCE.

what's new for OCTOBER



ADHESIVE PIPE MARKERS

(Use Key # 937 on Inquiry Card on page 47)

PLANT and maintenance engineers now can standardize the pipe identification system for their entire plant with the new Brady self-sticking Perma-Code pipe markers. With pipe identification standardized, tracing pipe lines through different rooms, departments and buildings is quick and sure. Maintenance down-time is reduced, operating errors minimized and plant safety improved.

The pipe markers come in stock heights to fit any size pipe. They are made of all-temperature vinyl-cloth with a heavy-duty, all-temperature adhesive, and silicone-plastic overcoated for long life. They are guaranteed to stick to pipes for a minimum of two years. New, job-tested, bold, black letters on ASA Standard A-13 background colors identify pipe contents with both color and legend. Matching stock directional arrows indicate flow direction of pipe contents. The markers are mounted on handy Blue Streak dispenser cards for fast application. The exclusive Blue Streak release coating on the dispenser cards allow fast, distortion-free application of the self-sticking Markers.

A free pipe marker planning kit is available to help plan a standardized pipe identification system for the entire plant. The kit includes a planning guide, cost comparison and safety information, application photos, free testing samples and a stock list.

TWO-CHANNEL AUDIOMETER

(Use Key # 938 on Inquiry Card on page 47)

A CLINICAL two-channel audiometer that conducts nearly all types of hearing tests with speed and accuracy has been introduced by the Beltone Hearing Aid Company. Designed for use by physicians, clinicians, and audiologists, in either one or two-room arrangements, the audiometer, cataloged as Model 15-A, also can perform all types of speech tests, including live voice and recorded.

Among the tests possible on the Beltone 15-A are: binaural and monaural equal loudness, Stenger, difference limen and

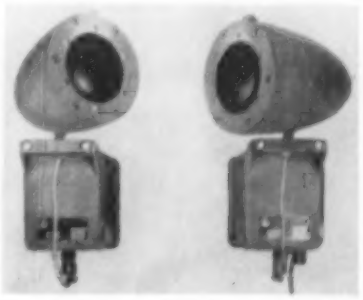
above-threshold audiograms in addition to many others. Choice of either white noise or complex masking is available. Both attenuators, graduated in one decibel steps, are continuously variable, eliminating clicks. This feature enables more accurate defining of the balance between the two ears. The instrument provides inputs for psycho-galvanic skin response tests, delayed speech tests transmitted by the recorder, and a warble tone adapter. The 15-A provides a complete range of octave frequencies from 125 to 8,000 cycles and intermediate frequencies from 750 to 6,000 cycles. It has extra 500 and 1,000 cycle oscillators and provides both manual and automatic pulsing of tones.

ELECTRONIC BURGLAR ALARM

(Use Key # 939 on Inquiry Card on page 47)

AN ELECTRONIC burglar alarm device employing infra-red modulated light has been introduced by Walter Kidde & Company, Inc. Approved by Underwriters' Laboratories, it comprises two cone-shaped units (10½" long, 6½" diameter at front end), one of which projects "black" light at a specified number of cycles per second while the other receives the signal. Any body passing through the invisible beam interrupts the phasing between the projector and receiver and causes an alarm to sound. This alarm can sound locally, at a central plant station or alarm company, or directly to police headquarters.

The photoelectric alarm has an effective range of up to 900 ft. and can be installed out-of-doors as well as inside. Its manufacturer claims almost infinite life for the equipment, as it employs transistors rather than vacuum tubes and its projector lamp operates at far below its rated maximum. The system operates on 110 volt, 60 cycle electrical supply and consumes approximately 6½ watts. A fluctuation of plus or minus 20 volts does not affect operation of the system. Its interconnecting lines carry low voltages making installation of conduit unnecessary. Facilities for operation on auxiliary battery power are built into the unit. It is both tamper- and jam-proof as any attempt at sabotage causes the alarm to sound.



TANK-TYPE ENGINE PREHEATER

(Use Key # 940 on Inquiry Card on page 47)

KEEPING vehicles on the job and dependable throughout the winter, with elimination of cold weather freeze-ups and hard starting, is said to be assured with the use of the Zero-Start external tank-type engine preheater produced by the Phillips Mfg. Co. Available in two models, a standard for automobiles and light trucks, and a heavy-duty model for heavier trucks and equipment, the unit is quickly installed on any liquid-cooled engine by connecting to the block drain.

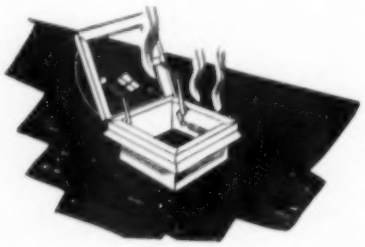
Engineered to give quick and easy starting in below zero temperatures, the Zero-Start incorporates a new improved extruded type, heavy capacity element which assures rapid warmup and long life. Circulating coolant within 20 seconds, the heater moves warm water freely throughout the entire block, and into the cab heater for instant comfort. The engine heater operates off any 115 volt AC/DC current supply and is rated at 850 (standard) and 1300 (heavy-duty) watts.

WATERLESS CLEANER DISPENSER

(Use Key # 941 on Inquiry Card on page 47)

AN EFFICIENT new dispenser is now available to accommodate a 4½ pound industrial size can of Kalene, a waterless cream-type hand cleaner and conditioner manufactured by the Kalene Corp. The dispenser has only six operating parts. The can in which the cleaner is sold also acts as the reservoir for the dispenser, and may be replaced with a new can when empty. Operating under "vacuum pressure" and employing a positive action plunger, the dispenser ejects the correct amount of cleaner required. A measuring rod inserted in the dispenser indicates the amount remaining in the container. Each refill can provides about 500 hand cleanings.

The new dispenser is easy to install. Since the cleaner requires no water or plumbing, it brings handy clean-up facilities to any location in factories, shops, offices or in the field. It can be used to remove grease, paint, tars, printers' inks and many other hard-to-remove soilages and odors without harsh solvents and grits that irritate the skin. Its lanolin and other beneficial emollients sooth and condition the skin, and it is claimed to be an effective means of combating industrial dermatitis.



AUTOMATIC FIRE VENT

(Use Key # 942 on Inquiry Card on page 47)

A FIRE-CONTROL device for automatically venting fires through the roof of a building has been developed by Wasco Products, Inc. Available in two models, the Pyrodome, equipped with a clear plastic cover, and the Pyrovent, equipped with an aluminum cover, the device is being marketed completely prefabricated.

The unit is designed to function when an excessive amount of heat is built up. Such heat causes the vent's fusible link to snap, activating a lifting mechanism which automatically raises the dome. Heat, smoke and gases escape through the roof almost immediately after the fire has started, and the fire is localized in the same manner as a fireplace. Also, when roof venting occurs, areas adjacent to the fire are said to be kept below the combustion point, minimizing the spread.

The manufacturer states that the venting device achieves three major objectives: it checks the spread of the fire; allows fire-fighters to see and locate the heart of the fire; and greatly reduces the possibilities of asphyxiation and goods contamination. All moving parts are mechanical, and inspection can be made from below as all linkage is exposed on the inside of the well.

SANITIZING FLOOR WAX

(Use Key # 943 on Inquiry Card on page 47)

A NEW germ controlling factor, called Demonite, has been developed by The Penetone Laboratory. Sanitizing Demonite is the active ingredient of a high gloss, non-slip wax called DEMON. The sanitizing wax inhibits the growth of bacteria from the moment it is applied and will last for the life of the wax. It is a high quality water emulsion wax that dries to a hard brilliant shine and can be rebuffed periodically to renew the gloss. Occasional damp mopping rejuvenates the germ inhibiting powers and restores the lustre to the floor. Actual controlled field tests proved that the wax reduced the bacterial count 99½% even after the 7th day following application.

There is no objectionable odor in Demon Sanitizing Wax, thus eliminating the precautions in handling or applying ordinary disinfectants. It can be used safely on all types of flooring materials: sealed wood and concrete, terrazzo, asphalt, rubber and vinyl tile, linoleum, etc., and is recommended for hospitals, vaccine rooms, drug and serum manufacturing companies, nurseries, camps, schools, restaurants, dairies, etc.

ICE MELTING COMPOUND

(Use Key # 944 on Inquiry Card on page 47)

A NEW form of "Melt" ice and snow melting compound that facilitates handling and spreading without danger of caking or solidifying within the container is announced by Chem Industrial Co. This improvement is said to permit use of Melt in virtually any type of spreader under even the most adverse weather conditions. It also eliminates rapid chemical decomposition upon exposure to atmospheric moisture, a common problem with ordinary snow removers.

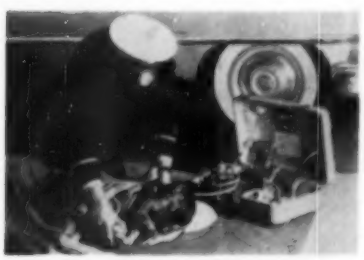
New Melt is reputed to have 10 times greater thawing capacity than flake calcium chloride. It is particularly active at low temperatures where salt is said to be comparatively ineffective. When sprinkled lightly over frozen surfaces, it quickly dissolves ice and snow without leaving a residue, or harming vegetation, rubber, asphalt or concrete. A phosphate-type rust inhibitor protects metal from deterioration. The compound is available in 25, 50, 100, 200, 300 and 500-lb. containers.

PORTABLE FOOT WARMER

(Use Key # 945 on Inquiry Card on page 47)

PRODUCTION LINE workers and office personnel have been given a boost in their fight against on-the-job cold feet with the introduction of the new, improved Electro-Mat, a portable foot warmer. Produced by Interstate Rubber Products Corporation, Electro-Mat is said to provide a safe amount of heat sufficient to keep feet warm, counteracting drafts and cold floors. Designed for use in offices as well as production areas, the electrically heated, all neoprene rubber mat will also find wide use by warehouse workers, shipping clerks, night watchmen, plant guards, check stand cashiers, machine operators, etc.

The maker states that Electro-Mat will help cut absenteeism so often caused by common colds, back aches and muscle soreness by applying a source of warm, comforting heat for the feet. The mat is 14" x 21" and can be transferred easily from one location to another. It requires only a small amount of space for storage when not in use. Constructed for safety, it requires less electric power than a 100-watt light bulb. It operates on either AC or DC.



PORTABLE RESUSCITATOR

(Use Key # 946 on Inquiry Card on page 47)

A LIGHTWEIGHT portable resuscitator easily adjusted for infants as well as adults has been developed by the Fyr-Fyter Company. The unit is the first resuscitator to use the Seeler valve developed by the Air Force and hitherto reserved for the armed forces. This valve is said to provide extremely efficient resuscitation, inhalation and aspiration. Positive (inhale) and negative (exhale) pressures can be controlled by simple dial adjustments. Even the rate of breathing can be preset to accommodate new-born infants or robust adults. The unit weighs approximately 30 pounds and has an 18½-cubic-foot oxygen cylinder.

Clinical tests in medical schools and hospitals have shown the Fyr-Fyter Seeler Universal Resuscitator is applicable in a wide variety of cases. These include drownings, carbon monoxide inhalation, electric shock, polio, inhaled solvents, barbituate poisoning, cardiac cases, asphyxia of the new-born, toxic gas and smoke inhalation. The unit, packed in a small aluminum case, is equipped with three contour face pieces to fit patients of any age. It is easily modified for two-man operation. An exterior chuck facilitates quick refilling of the cylinder from any commercial oxygen tank. A demand inhalator, the most efficient method of providing economical oxygen therapy for long periods, can be supplied with the resuscitator.

WATER FIRE EXTINGUISHER

(Use Key # 947 on Inquiry Card on page 47)

A NEW stored-pressure water fire extinguisher has been introduced by Ansul Chemical Company. The extinguisher has a 2½-gallon capacity. Underwriters' Laboratories has classified the unit 2-A, the highest rating given to extinguishers of this capacity for use on Class A (wood, paper, rags, etc.) fires.

An important feature of the new unit is its shut-off control. The operator is able to turn off the water at will, thereby reducing water damage to a minimum and allowing most efficient use of the water contained in the unit. No bouncing or inverting is needed to activate the extinguisher. The stream of water is released by merely operating the squeeze grip carrying handle. The water stream, supplied by full capacity air pressure from start to finish, has a range of 35 to 40 feet.

After use, the extinguisher can be quickly recharged by replacing the water and pressurizing the unit to 100 pounds per square inch at any source of compressed air. A tri-color pressure gauge tells at a glance whether the air pressure is adequate to discharge the unit effectively. When anti-freeze chemical is added, the extinguisher will operate properly in temperatures down to -40 degrees F. It is available in three different shells, stainless steel, brass and chromium plated brass.

LIGHTWEIGHT WELDING CURTAINS

(Use Key # 948 on Inquiry Card on page 47)

A NYLON-PLASTIC welding curtain has been developed by Herculite Protective Fabrics, Inc., that is said to be extremely durable and resistant to fire. Herculite is a combination of special vinyl and tough nylon. The welding curtains do not absorb shop oils and greases, are flame-proof, and their colors indicate continuous "caution zone" partitions in an area. Also, welding splash is completely localized.

Only ⅓ the weight of conventional cotton duck, yet many times stronger, Herculite curtains are easy to handle, and require little storage space. The presence of soft green, yellow and red colors improves shop appearance, while workmen's eye fatigue is substantially reduced, according to the manufacturer.

AUDIOMETRIC TESTING ROOM

(Use Key # 949 on Inquiry Card on page 47)

INDUSTRIAL Acoustics Company, Inc. has announced the addition of a new "general purpose" audiometric testing room, Series "200," as an addition to their complete line of audiometric testing rooms. The IAC Series "200" are designed to meet less severe noise attenuation at lower cost for use in relatively quiet areas.

Featuring such new developments as "Noise-Lock" doors, windows and vent silencers, rubber cushions, floating floors, audiometer jack panel and noise-lock corners and joints, these testing rooms provide sound levels necessary to give trouble-free audiometric tests, assuring the validity of the audiograms made. The prefabricated rooms are easily assembled, dismantled, and are movable from one location to another.

HAND TOOL SAFETY DEVICE

(Use Key # 950 on Inquiry Card on page 47)

THE SLEEFF, a new safety device produced by Tamco, Inc., is designed to eliminate bruised and broken fingers occurring in hand tool operations. The durable, lightweight plastic hand guard fits tightly over the tool stock, deflecting any hammer blow that does not strike the tool solidly.

The Sleeff also assures greater accuracy in striking by presenting a clearer "target" for the hand tool users. This safer protection to hands and greater accuracy in striking should increase production efficiency and reduce lost man hours due to injuries. The device is available in several octagon sizes: ½", ⅝", ¾", ⅞" and 1".

COMBUSTIBLE GAS DETECTOR

(Use Key # 951 on Inquiry Card on page 47)

A PORTABLE gas detector, the battery-operated J-W Model G, weighing approximately 4 lbs., has been introduced by Johnson-Williams, Inc. It is said to quickly and reliably indicate combustible gas concentration in confined and inaccessible areas on its easy-to-read meter dial. Air samples are drawn through an aluminum, dust filter-equipped probe and sample hose by means of an aspirator bulb. The unit automatically switches on and off with appropriate movement of aspirator bulb for maximum battery economy.

Five other standard J-W models of gas detection equipment offer continuous protection in from one to eight separate locations, visual and audible warning of dangerous accumulation, and many other operating and construction features for various industrial applications.

LINEMAN'S GLOVE BAG

(Use Key # 952 on Inquiry Card on page 47)

A NEW type glove bag made of vinyl-coated nylon material has been developed by the Miller Equipment Co., Inc., to guard against water, mildew and fungus. This new bag, identified as 10-N, is double-

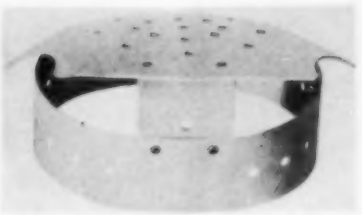
stitched throughout, one piece front and back, bar-tacked at all corners and leather-reinforced inside and out for snap. Made in 16" and 18" lengths, and 8" wide, with tapered gusset 4" at top and 2" at bottom, its silk screen lettering warns to "Always Wear Your Gloves."

LONG-WEAR GLOVES

(Use Key # 953 on Inquiry Card on page 47)

A NEW line of industrial gloves featuring a new leather with exceptional wearing qualities has been announced by the Scientific Industrial Supply Co. According to the manufacturer, tests by independent laboratories indicate that this leather, known as Horsebutt Split, gives up to three times as much wear as other leather gloves. The company also cites excellent results in dry cleaning tests of the gloves.

The gloves are extremely flexible for unusually good freedom of movement due to a special tanning process. This process also retains the leather's resistance to abrasion found in the natural Shell Cordivan Horsehide from which the leather is split. The new line of gloves includes three basis styles for industrial uses: safety cuff, gauntlet, and knit-wrist. All styles have canvas backs.



CAP SAFETY LINER

(Use Key # 954 on Inquiry Card on page 47)

THE NESMO Safety Hat Liner was designed originally by the Safety Bureau of the Consolidated Edison Co. to be used by uniformed personnel whose work might take them into basement corners where they might strike their heads against overhead pipes, beams, etc. The liner consists of a shaped crown made of tough plastic and is designed to fit into any 8 point uniform cap. The plastic crown is held in place inside the hat by an attached anchor strap which tucks in behind the sweatband. This anchor strap also provides all-around head protection from bumps. A foam rubber pad centered on the underside of the crown cushions against sudden impact from overhead.

The plastic cap liner is being manufactured exclusively by Duggan Safety Products Co. to provide head protection for persons wearing uniform caps such as public utility employees, policemen, firemen, guards, sanitation department workers, dairy workers, airline employees, letter carriers, transit workers, etc. According to Michael L. Duggan, president, the company can also supply complete uniform caps with the Nesmo Safety Liner sewn in. Specifications for cloth and sizes of hats should be included when ordering.

NOISE REDUCTION PANELS

(Use Key # 955 on Inquiry Card on page 47)

A NEW acoustical material that is both highly sound absorptive and soundproof, has been developed by Elof Hansson, Inc. The material may be easily cut to size and is recommended for the construction of quiet offices in noisy areas, noise machinery enclosures, and acoustical test rooms. Other applications include audio-

metric rooms, movable barriers, shields for noisy equipment and walls for dynamometer rooms.

Known as E. H. Noise Reduction Panels, they can be supplied of incombustible materials. Standard size for the panels is 4' x 8' x 2½". Weight is approximately 5 lbs. per sq. ft. Soundproof windows, doors, air intakes and discharge silencers are furnished to specifications.

NON-SKID GRATINGS & TREADS

(Use Key # 956 on Inquiry Card on page 47)

RELGRIT abrasive surface, non-skid gratings and treads are said to offer permanent protection against slippery walkways, stairways, and platforms. Manufactured by the Reliance Steel Products Company, the gratings and treads incorporate a non-absorbent, hard, tough abrasive baked into V-shaped openings along their top edges. The abrasive is embedded about ⅛" in depth and extends above the bars.

According to the manufacturer, this process retains the many advantages of open flooring, while providing safe, sure underfooting. The non-skid surface is said to be effective whether wet or dry, muddy or oil-soaked. It is resistant to most acids, alkalis, and chemicals. The durable gratings and treads comply with the safe materials classification of the National Safety Council.

TIRE FIRE EXTINGUISHER

(Use Key # 957 on Inquiry Card on page 47)

THE Karbaloy Instant Extinguisher, a loaded-stream type fire extinguisher produced by the Fyr-Fyter Co., has proven highly effective in combatting tire fires, a major truck hazard. The extinguisher, containing a special chemical, may help save truckers millions of dollars a year, according to tests conducted by the Pennsylvania Motor Truck Association. In the tests, various extinguishing agents were directed against intensely burning truck tires. The Karbaloy extinguisher, shooting a stream some 45 to 60 feet, proved to be the only one capable of extinguishing the blaze without any danger of a back-flash.

The extinguishing agent, known as Karbaloy, is an alkali-metal salt solution which is non-toxic. It has great penetrating power, and also serves as a fire retardant solution. Its freezing point is 40 degrees below zero, making it available for use in extremely cold weather. The extinguisher is available in 2½-gallon capacities.

13-GALLON PLASTIC DRUM

(Use Key # 958 on Inquiry Card on page 47)

A NEW type 13-gallon polyethylene drum, barrel-like in appearance and construction, is now in volume production at the Plax Corporation. The container is an addition to the company's line of 5, 6½ and 13-gallon carboys.

The heavy-duty container incorporates such features as two folding handles, pouring spout, separate opening for filling and venting, hand-grip on the bottom and

strengthening ridges that permit the drum to be rolled on its side. Complete provision has been made to permit stacking. Colored folding handles, and filling and pouring necks are located in a recessed area on the top of the drum. Top and bottom contours are convex to permit the containers to nest securely one on top of the other. The container is lightweight, inert to corrosives and unbreakable. Arrangements are being made to secure I.C.C. approval.

KNUCKLE DRESSING

(Use Key # 959 on Inquiry Card on page 47)

MEDICAL Fabrics Company, Inc. has introduced a first aid dressing for injuries on the knuckles or fingers, especially the finger joints. Known as Flex-Aid Knuckle-Bands, the adhesive dressing is made of an elastic cloth that expands and contracts with body movements. The flesh-colored material is said to be somewhat porous, reducing the danger of maceration of bandaged parts.

The dressing, of an H-shaped design for the hard-to-bandage areas, comes individually wrapped and sterilized. Over-all size is 1½ x 3 inches.

NEW SILICONE FOR LEATHER

(Use Key # 960 on Inquiry Card on page 47)

WORKERS who slosh through water, acid, and alkaline solutions on their jobs will be interested in Sylflex, a new silicone for leather. Developed by Dow Corning Corp., Sylflex provides lasting water repellency without clogging the pores through which leather "breathes." A man wearing shoes made of leather with Sylflex can walk through water and acid solutions without getting his feet wet, an important safety factor. Blocking the water means that leather stays flexible. With Sylflex, shoes will not stiffen, crack or curl after wetting, as conventionally tanned leathers do. Because Sylflex does not block air, it does not make feet feel hot and stuffy as do airtight overshoes.

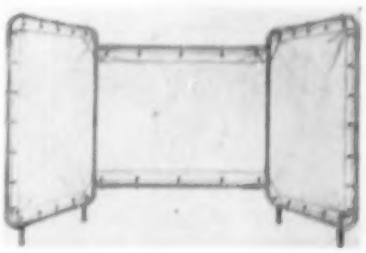
Sylflex is applied in the tanning process and penetrates all through the leather. The company explains that it surrounds the individual fibers in the leather making them repel water and waterborne chemicals. It does not clog the spaces between fibers, which would give leather a plastic-like feeling and make it uncomfortable to wear.

PORTABLE WELDING SCREEN

(Use Key # 961 on Inquiry Card on page 47)

A NEW lightweight portable screen, with many advantages over the conventional threaded water pipe type, has been made available by The Special Products Div., Singer Glove Mfg. Co.

Made of rust-proof tubular steel, it assembles in a matter of minutes. The screen folds flat and compact, and because it weighs only a few pounds, is easily portable. It can be used as a shield for welding or machine protection, or with special platform legs available, can be used as a wall in a straight line.



YOUR FREE INQUIRY CARD—Page 47

Index to Advertisers and their Agencies

Alan Wood Steel Co.	56	Doremus-Eshleman Co., Philadelphia
Allied Wiltan Co.	64	P D A Advertising Agency, Cleveland
American Chain & Cable Co.	35	Reincke, Meyer & Finn, Inc., Chicago
American Optical Co.	8 & 9	Sutherland-Abbott, Boston
Amidon Engineering Co.	86	
Assured Safety Devices, Inc.	70	
Award Incentives, Inc.	44	
Babcock Co., Inc., The W. W.	86	Howell Advertising Agency, Elmira
Bausch & Lomb Optical Co.	14	Ed Wolff & Associates, Rochester
Beltone Hearing Aid Co.	13	Olian & Bronner, Inc., Chicago
Bil-Jax, Inc.	78	Chamberlin-Junk Advertising, Inc., Fort Wayne
Brady Co., W. H.	66	Hoffman & York, Inc., Milwaukee
Breck, Inc., John H.	52	Charles Sheldon, Inc., Springfield
Central Safety Equipment Co.	58	Ralph A. Hart, Philadelphia
Charleston Rubber Co.	59	Advertising Service Agency, Charleston
Chicago Eye Shield Co.	Inside Back Cover	Reincke, Meyer & Finn, Inc., Chicago
Cover, H. S.	23	Jerry Bryant Advertising, Chicago
Dameron Enterprises, Inc.	63	Walter C. Mellman, Louisville
Davenport & Son, A. C.	68	Gerstel Agency, Inc., Chicago
David's Gloves, Inc.	78	Mendenhall Advertising Agency, Springfield
Detex Watchclock Corp.	83	J. M. Kesslinger & Associates, Newark
Dolge Co., The C. B.	76	Malone, Moore Associates, Inc., N. Y.
Edmont Mfg. Co.	43	Maurice Mullay, Inc., Columbus
Federal Sign & Signal Corp.	77	Ladd, Southward, Bentley, Inc., Chicago
Fine Organics, Inc.	10	Conti Advertising Agency, Inc., Ridgewood
General Radio Co.	27	K. E. Morang Co., Boston
Gets-A-Lite Co.	81	Read Brothers, Chicago
Haws Drinking Faucet Co.	89	Pacific Advertising Staff, Oakland
Hild Floor Machine Co.	54	Henri, Hurst & McDonald, Inc., Chicago
Hynson, Westcott & Dunning, Inc.	Back Cover	
Kennedy-Ingalls Co., V. E.	81	Fred J. Chlupp Associates, Inc., Milwaukee
Lightfoot Schultz Co.	80	Herald Advertising Agency, Inc., New York
Littell Machine Co., F. J.	51	Vernon S. Weiler Advertising, Chicago
M. M. A., Inc.	58	
Masury-Young Co.	31	Hoag & Provandie, Inc., Boston
Mine Safety Appliances Co.	Inside Front Cover	Ketchum MacLeod & Grove, Inc., Pittsburgh
Multi-Clean Products, Inc.	21	Alfred Colle Co., The, Minneapolis
Oil Dri Corp. of America	49	Burlingame-Grossman, Chicago
Poc Kit Co., The	65	
Patent Scaffolding Co., Inc., The	57	Stoetzel & Associates, Inc., Chicago
Pioneer Rubber Co., The	86	Carr Liggett Advertising, Inc., Cleveland
Plesco Safety Products	64	Mendenhall Advertising Agency, Springfield
Practical Mfg. Co.	72	Fischbein Advertising Agency, Minneapolis
Quabaug Rubber Co.	41	
Reece Wooden Sole Shoe Co.	85	
Ruemelin Mfg. Co.	85	Paulson-Gerlach & Associates, Inc., Milwaukee
Safety Clothing & Equipment Co.	76	Carpenter Advertising Co., The, Cleveland
Safety Tower Ladder Co.	66	Walter DuBree Advertising Agency, Denver
Scientific Industrial Supply Co.	51	Emco Advertising Co., Chicago
Scott Aviation Corp.	12	Melvin F. Hall Advertising Agency, Buffalo
Seargeant Metal Products, Inc.	69	Kamb, Meteyer Advertising Agency, Rochester
Shell Oil Co.	11	J. Walter Thompson Co., New York
Silicone Paper Co. of America, Inc., The	7	Package Advertising Co., New York
Smith & Son, Inc., A.	84	John B. Ferguson, Jr., Philadelphia
Speco, Inc.	80	Palm & Patterson Inc., Cleveland
Spencer Turbine Co., The	24	W. T. Towne, Stamford
Standard Industrial Products Co.	82	Moore Advertising Agency, Peoria
Stonehouse Signs, Inc.	4	Walter DuBree Advertising Agency, Denver
Surety Rubber Co.	79	H. M. Klingensmith Co., Inc., Canton
Surty Mfg. Co.	82	
Tamco, Inc.	50	W. S. Hill Co., Pittsburgh
Thompson Mfg. Co.	68	
Torit Mfg. Co.	79 & 84	Kerker Peterson Hixon Hayes, Inc., Minneapolis
Tower Co., A. J.	67	Shattuck, Clifford & McMillan, Inc., Boston
Watchemoket Optical Co., Inc.	2 & 3	Richard Thorndike Agency, Providence
Wilkins Co., Inc., The	1	Lenz Advertising, Inc., Ithaca
Williams Jewelry & Manufacturing Co.	50	Vernon S. Weiler Advertising, Chicago

CESCO RIGHT... before your Eyes!

Cup-type Goggles

Spectacle-type Goggles

Chemical Goggles

Plastic Frame Goggles

Cover Goggles

Lite-Specs

Fiber Glass Helmet

Approved Respirator Hood

Face Shields

WHATEVER TYPE OF SAFETY EQUIPMENT YOU NEED...BUY WITH CONFIDENCE from the CESCO Distributor listed here

• You don't need to hunt for the best source of safety equipment. Take it from CESCO, you can buy with confidence from the firms listed here. CESCO has the finest type of distributor representation—the kind you want when in the market for every type of safety and protective equipment. These firms are safety specialists and well stocked with equipment that has stood the test of time in industrial plants everywhere.

You can buy with confidence from CESCO distributors

ATLANTA, GA.
Guardian Safety Equipment Co.
427½ Moreland Avenue, N. E.

BATON ROUGE, LA.
Guardian Safety Equipment Co.
3615 Capitol Heights Ave.

BIRMINGHAM, ALA.
"L. P." Hatless Company
2627 Seventh Avenue, South

BOSTON, MASS.
General Equipment Corporation
261 Franklin Street

BUFFALO, N. Y.
The Watson Company
1443 Main Street

CHICAGO, ILL.
Universal Safety Equipment Co.
5115 Diversey

CINCINNATI, OHIO
Williams & Co., Inc.
3231 Fredonia Avenue

CLEVELAND, OHIO
Williams & Co., Inc.
3700 Perkins Avenue

COLUMBUS, OHIO
Williams & Co., Inc.
851 Williams Avenue

DALLAS, TEXAS
Guardian Safety Equipment Co.
900 Jefferson Tower Bldg.

DENVER, COLORADO
General Welding Supply Co.
1434 Blake Street

DETROIT, MICH.
Averill Equipment Company
19225 Consant Avenue

HOUSTON, TEXAS
Guardian Safety Equipment Co.
1915 Westheimer

KANSAS CITY, MO.
Safety, Incorporated
17 E. 31st Street

KNOXVILLE, TENN.
Safety Equipment Distributing Co.
832 W. Main Avenue

LITTLE ROCK, ARK.
Fire Appliance & Safety Co.
1114 W. Markham

LOS ANGELES, CALIF.
Guardian Safety Equipment Co.
7223 S. Main Street

LOUISVILLE, KENTUCKY
Williams & Co., Inc.
1109 S. Preston Street

MILWAUKEE, WIS.
Universal Safety Equipment Co.
3155 S. 7th Street

ORANGE, N. J.
Guardian Safety Equipment Co.
600 S. Jefferson Street
(New York-New Jersey Area)

PEORIA, ILL.
Standard Industrial Products Co.
920 N. Garfield

PHILADELPHIA, PA.
Guardian Safety Equipment Co.
214 S. 45th Street

PITTSBURGH, PA.
Williams & Co., Inc.
901 Pennsylvania Avenue

ST. LOUIS, MO.
Safety, Inc.
2608 Olive Street

ST. PAUL, MINN.
Continental Safety Equipment, Inc.
1551 Selby Ave.

SALT LAKE CITY, UTAH
Universal Fire & Safety
Equipment Co., Box 1587

SAN MATEO, CALIF.
Guardian Safety Equipment Co.
220 Third Avenue

SPOKANE, WASH.
Spokane Safety Appliance Co.
North 219 Division Street

TOLEDO, OHIO
Williams & Co., Inc.
306 Rene Street

TULSA, OKLA.
Guardian Safety Equipment Co.
1742 S. Main Street

MEXICO CITY, D. F.
Safety Equipment S. A.
Sullivan 95

MONTREAL, CANADA
The Butler Optical Company, Ltd.
1520 Mountain Street

Approved Respirators

CHICAGO EYE SHIELD COMPANY
2310 Warren Boulevard
Chicago 12, Illinois

CESCO

C E S C O

FOR SAFETY

(For details, use Key # W-67 on card on page 47)

Thantis® LOZENGES

first aid for throat irritations

SORE THROATS due to coughs and colds, if neglected, may result in lost man hours of work.

THANTIS® Lozenges contain no antibiotic; they produce no unpleasant by-reactions in the mouth.

THANTIS Lozenges relieve pain promptly—reduce infection—act prophylactically.

Twenty-six years' extensive clinical and lay use has proved the safety and effectiveness of this popular product.

Mercurochrome®

First aid for wounds . . .

Neglect may cause infection which can be prevented by prompt use of 'Mercurochrome.'®

No antiseptic has been proved to be more effective than 'Mercurochrome' for topical application.

(For details, use Key # W-68 on card on page 47)

HYNSON, WESTCOTT & DUNNING, INC., BALTIMORE 1, MARYLAND